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**YEAR BOOK AND
Sixteenth Annual Report**

OF THE

**Commissioner of Agriculture
Commerce and Industries**

OF THE

State of South Carolina

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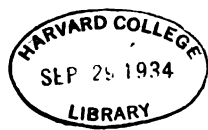
1919



**COLUMBIA, S. C.
GONZALES AND BRYAN, STATE PRINTERS,
1920**

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Report of the Department of Public Administration

LETTER OF TRANSMITTAL

To His Excellency, the Hon. Robert A. Cooper, Governor of South Carolina.

Sir: In accordance with the provisions of Section 854 of the Civil Code, I have the honor herewith to hand you my sixteenth annual report, covering the work of the Department for 1919 under the several laws with the enforcement of which the Department is charged, exclusive of the work of the Labor Division, for which a separate report is required by law and has been filed, for transmission to the General Assembly, in accordance with the provisions of the section of the Code aforesaid.

Respectfully,

B. HARRIS,
Commissioner.



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GENERAL.

FOREWORD.

The activities of this department are many and varied. It touches nearly every phase of life in the State. In this report I shall endeavor to give a comprehensive view of the constructive and regulatory work of the department, and also to give a general perspective of conditions, developments, resources and opportunities in South Carolina.

We have not spent much time upon theories or "scientific" agriculture during the year 1919, but have endeavored to push the regulatory work of the department, at the same time giving all possible time and energy to the fight to organize the cotton farmers, in cooperation with bankers and business men, for upon the proper growing and marketing of cotton has depended the entire commercial and educational welfare of our people.

The year has been one largely of organization and reorganization, for several of the men so well trained under the direction and enthusiasm of the late Col. Watson have found it necessary to leave the service to engage in other work, in which they find more remuneration.

The Commissioner has been fortunate to engage the services of Capt. H. W. McCreight as chief clerk, a position which he formerly held. A. C. Summers, who served for a year as Commissioner and then decided to engage in mercantile business, returned to the department as chief chemist about the middle of the year. Inspectors Bonner and Groeschel, serving upon the cotton factory inspection work, retired from the department during the year. Inspector Blackwell was made chief clerk to the Secretary of State. Inspectors Lucas, Gilbert and Ellis were added regularly to the staff. They have proved themselves capable and energetic. Inspectors Via of the textile division and Kennedy of the bureau of markets are new men, of whom I expect good results.

THE FULLNESS OF OUR DAY.

"When every farmer in the South shall eat bread from his own fields and meat from his own pastures, and, disturbed by no creditor, and enslaved by no debt, shall sit amid his teaming

gardens and orchards and vineyards and dairies and barnyards, pitching his crop in his wisdom and growing them in independence, making cotton his clean surplus and selling it in his own time, and in his chosen market, and not at a master's bidding—getting his pay in cash and not in a receipted mortgage that discharges his debt, but does not restore his freedom—then shall be breaking the fullness of our day.”—Henry W. Grady.

I knew Henry W. Grady. I knew him to be a great man, a good man. If he were alive today, I am sure he would be with us in this fight for the cotton farmer. He would not be holding out any will o' the wisp to the farmers and giving them false hopes for the production of cotton next year. The Southern farmer is slowly coming into the fullness of his day, and what a great pity it is that Mr. Grady cannot enjoy it with them. He “loved the South back into the Union.”

WORKING PEOPLE EXTRAVAGANT.

“Experienced merchants refuse to class themselves as profiteers,” writes a dry goods merchant of New York. “They declare that the unwonted level of prices has come about through the uncontrollable extravagance of those who have been making great profits and high wages. Extravagance in dress is an old story in the human family, and for the past six months it has been well known that the conservative rich and well conditioned middle classes have not bought dry goods flippantly. They have exercised an inbred conservatism.

“But merchants have found ready customers among those who have had fat envelopes burning holes in their pockets. The difficulty jobbers have found has been the one of controlling those whose business has expanded so abnormally that they have lost all sense of proportion in making fresh engagements. The jobbers are mystified.”

Now, that is a very interesting statement. I regret to learn that the extravagance of the times is more pronounced among our working people, as alleged above. Yet—who can find the heart to blame them? So long have they gone without home comforts, creature comforts, personal adornment, that when they get the opportunity they know no moderation. We can only hope that the newness of their improved financial condition will soon

have worn off and that they will think more of saving than of spending.

SOUTH IN GREAT CONDITION.

Norman H. Johnson, secretary of the Southern Wholesale Dry Goods Association, makes this clear analysis of the South's situation at the beginning of 1920:

"The South is in the best condition in her history. There are years of good business ahead, based on resources. In fact, the variable resources of this section are such that any panicky condition that may hereafter affect the nation will be felt last in the Southland. For generations this section was largely dependent on agriculture, but today her manufactures, minerals and lumber products total figures greatly in excess of her crops. While agricultural production has constantly increased and reaches enormous proportions, her labor and economic facilities for manufacturing have been developed by leaps and bounds, being almost unequalled by any other section of our common country."

Mr. Johnson advises the trade that a strict credit policy is necessary in 1920. In this I wish to commend his advice and his judgment. The present price levels of textiles is predicated on extravagance and domestic demand and not on increased export needs.

CARRY ON WITH THE TIMES.

During the first decade of the existence of this Department the value of the farm products in South Carolina increased from \$85,000,000 to \$166,000,000 in 1913. This had grown to \$240,000,000 in 1916; \$381,000,000 in 1917, and now, in 1919, nearly \$500,000,000.

The acreage given to planting has not increased; in fact, may be said to have decreased. For, within that time rice lands have been abandoned, war industries have called a large portion of our farm labor, and other causes have upset farming operations.

When the work of this Department was begun there was stagnation in agricultural affairs. The farmer appeared to deprecate his work, and the remainder of the world seemed to look down upon him. The farm boy had but one wish, and that was to get away from the farm. Today conditions are greatly changed. Farming has become recognized as a profession, as a business, to succeed in which requires the use of brains. Those

who have kept in touch with passing events know that this Department has been one of the best investments that the State has ever made—first, in trying to arouse the farmer to the possibilities of diversified agriculture; then in encouraging him to market his big crop, cotton, with care.

THE COMING YEAR'S PROGRAM.

The coming year brings with it the absolute necessity for increased effort to cut down living expenses in the things now brought from other States that can be raised at home; to establish an intelligent meat-producing and land-enriching live stock industry; to let the people understand what the introduction of the use of limestone means; to encourage the growing of legumes for the enrichment of the soil and for forage for live stock, and, above all, to save something from the enormous drain that now goes to the misuse of commercial fertilizer because it is so easy to buy it mixed in a sack on long credit, which, after all, is the costliest credit in the world.

As yet, in my humble opinion, we have merely scratched the surface of the golden opportunities that are scattered around us; indeed, I would fear to picture at this time what I can see in the future for South Carolina and her sister States of the South Atlantic Seaboard, if we men, who are urging our people onward and upward, will but do our full duty and do our full measure of hard, earnest, sincere and honest work.

THE FARMER'S FREEDOM.

When we consider the privations and almost pitiable degradation of the tenant farmer and his dependents, who has the heart not to rejoice in this great liberation that has come to them? Men have paid debts which, through all of their adult lifetime, had held them shackled to the plow handles. It is not ignoble to be a farm laborer, but to be forced to spend one's lifetime between the furrows, with no prospect for the little ones coming on in one's footsteps, is indeed a pitiable state of existence. It is the restriction, the enforced poverty, that grinds.

PAY OFF THE MORTGAGE.

Wise in his generation is the farmer who uses the proceeds of his year's work in paying off the mortgage—or, for that matter, any other old debt, rather than blowing it in on a new six cylinder automobile or for other things which are not imperatively needed

in his farming operations. And we say this for three chief reasons: First, because when you can use a 50c dollar in paying off a debt that was contracted when the dollar was worth 100c, you are driving a mighty good bargain; secondly, because the farmer stands on the brink of a precariously uncertain period; and third, with the value of all merchandise inflated beyond the pale of reason as it is at the present time, ordinary horse sense would admonish us to buy only when there is no other way around it.

Of course, we do not mean that a farmer should deprive himself and his family of the wholesome needs and comforts of life—for that is playing the part of the miser. Nor do we urge such stringent economy upon those who are out of debt—who have arrived at a point where they can afford to indulge in luxury—but before you do this, be sure to wipe the slate clean—for the future looks a little bit squally.

SUPPLY AND DEMAND AND SELF-SACRIFICE.

The imperative necessity of curtailing the demand, as well as increasing production, has not been duly impressed upon our people. The increase in production can be provided, but the thing is that we are living too high, or too fast, or too luxuriously.

All of us realize, I think, that production substantially in excess of demand is the only real remedy for our ills, the one thing that can be depended upon to prevent the starting of another cycle of general wage increases, with inevitable further resulting advances in the cost of living to make the higher wages worth less than the lower. Elimination of profiteering, prosecution of profiteers, and release of government and other stored supplies will help a great deal, but those things, like all other efforts on the part of the government, are going to be unavailing unless the individual citizen does his own share toward bringing the law of supply and demand back into its own.

What is required is more of self-denial. It is so easy now to gratify one's wishes. Money seems to be plentiful. The war is over and we are not called upon to give up this, that, or the other. Under such circumstances it is exceedingly more difficult than during war times to deny one's self the things that are so easily attainable. But—it must be done, for the good of all.

THE NEXT CENSUS.

The census will be taken in 1920. I believe it will be the most thorough that has ever been made. I urge the people to be responsive, to give information clearly and concisely. The data that is gathered by the Federal Department, bureau of census, will be used to great advantage in the future in telling the world of the resources and industries of South Carolina. I hope and expect to see a marked decrease in the percentage of tenancy and illiteracy.

The farm loan bank system has failed to prove itself a panacea for the former evil, for the tenant farmer is not enabled by this agency to buy his home, although that was the hope and expectation of Colonel Watson, David Lubin and other statesmen who worked and pleaded for a law that would enable the tenant classes to become landowning.

As to illiteracy, I have always maintained that there was a difference between illiteracy and ignorance. I have known men who were very intelligent and capable, men who had accumulated means and who were fairly well informed upon current affairs, but they could not write their names. They were not ignorant, but they would have been able to enjoy life very much more had they been able to read the newspapers, the Bible and other good books.

Some have said that illiteracy was a curse, others said it was a crime. Whatever it was, it was no credit to our State, and I say that its cause was poverty, and the poverty was put upon us by the mischief makers who have kept us in lien bondage for fifty years by preventing Southern farmers from getting their price for cotton and forcing them to remain forever in debt and a year behind with their finances.

ILLITERACY OVERDRAWN.

I will be glad when the new census is made and revised illiteracy figures are published. I am not prepared to believe that there is as much illiteracy in South Carolina as there was ten years ago. There has been more teaching, although some of it may have been spread out thin and not as thorough as it used to be. However, there is less ignorance, for with the rural delivery of mails the people read the newspapers, or hear them read, and keep fairly well informed. The last census showed that we had 10.3 per centage of white illiteracy and 38.7 per cent. negro.

I would not minimize the importance of removing every bit of illiteracy that remains, but I do not believe that South Carolina is in such a shameful condition as other States, and I do know that our people are loyal to their country, which cannot be said of other States which might be disposed to mock at us.

AT WAR WITH WORK.

I have never witnessed on the part of the people such indifference to work. Some have analyzed this state of mind as an outcome of the influenza epidemic. Others say that such morbid conditions always follow wars, and that in the present case the people are "rattled" because of the failure of the Senate to sign the Peace Treaty.

It is next to impossible to get people to work, especially upon the farm. This will be the sole pessimistic note in my report. Everything that the farmer grows is approximately high enough in price if he could just get the labor to produce and to take care of his products. If there is not a greater production of the essentials of life, there will be actual suffering.

There is too much loafing and not enough producing. There is too much high living and not enough high thinking. I do not oppose high wages—for those who work and who deserve, and there is nothing too good for the laboring people, who actually labor, but nothing seems to satisfy some wage earners. "The laborer is worthy of his hire," but is he in earnest in his work?

MR. LONG RETURNS.

The Commissioner wishes to welcome back into the ranks of collaborators Dr. W. W. Long, head of the extension work at Clemson College. After several strenuous years of service, Dr. Long was given a year's absence, during which the duties of his office were most capably discharged by Mr. D. W. Watkins, assistant in charge.

COMMISSIONER'S ILLNESS.

The Commissioner regrets to report that during the months of November and December, when he had planned to leave the office for an active campaign in the lower part of the State, he was confined to his room for the greater part of the time with a prolonged illness, from which he has almost entirely recovered, and he hopes during the spring to be able to accept some of the numerous invitations which have come to him from all parts of

the State for "some common sense talks on farming," as several were kind enough to put it.

GENERAL COOPERATION.

During the winter of 1918-19 the Hon. Franklin K. Lane, Secretary of the Interior in President Wilson's cabinet, urged upon the State Legislature to pass an Act enabling the States to cooperate with the Federal Government in soldier settlement work. The Act was not passed by the Legislature, as Congress had taken no action. Mr. Oscar Hammerle, representing Secretary Lane, called upon this Department, and we cooperated with him to the extent of getting a clause in the appropriation bill permitting the Department to give necessary cooperation in case Congress should act. As is quite well known, Congress never took any action.

Again this Department cooperated with the Department of Labor in Washington when Mr. Ethelbert Stewart came to Columbia in search of information regarding "cut over lands" in South Carolina. The Commissioner was able to show Mr. Stewart maps, not in our possession but to which we have access, which he declared to have been the most complete land records he had ever seen in any State. During the months just succeeding the armistice, the government maintained in Columbia an employment bureau. As Congress let the sundry civil appropriations bill die on the calendar, this work was not provided for and would have languished.

Commissioner Harris, after conference with John Lee Davis, the Federal bureau manager, decided to ask the Legislature for \$500 to assist in this work. The appropriation was made and the assistance given kept the Greenville bureau open several months longer than it would have been and found employment for many soldiers. I herewith quote from a letter of appreciation from Mr. Davis:

"You are no doubt aware that on account of the failure of Congress to appropriate sufficient funds, it is necessary that I close the office of the U. S. Employment Service in this State.

"My official duties will not have been completed until I express to you my appreciation of the hearty cooperation and financial assistance you have given, thus enabling me to keep open one of the offices in this State for a considerably longer time than I otherwise would have been able to do. During the period that

this office was maintained from funds received from your department, it secured positions for and placed a large number of persons in employment—included in these were a considerable number of discharged soldiers. This financial aid assisted materially in stabilizing labor conditions in that locality. Again thanking you for your cooperation, I am," etc.

THE COST OF LIVING.

Of course, we are complaining of the high cost of living. It is our prerogative to complain, and we are doing it. But this has been an American custom of many years' standing. Abigail Adams, spouse of the second President of the United States, wrote to her husband in 1776, giving him the following price list:

Meat, \$1 to \$2 per pound.
 Corn, \$25 per bushel.
 Rye, \$30 per bushel.
 Molasses, \$12 per gallon.
 Flour, \$5 per hundred weight.
 Cider, \$40 per barrel.
 Cheese, \$2 per pound.
 Butterine, \$3 per pound.
 Sugar, \$3 per pound.

In 1770 sugar rose to \$4 per pound and tea the same. In 1779 butter sold for \$12 per pound and tea for \$40.

Such were the prices in Revolutionary times when the country was only trying to carry on a war and feed its citizens at the same time.

The United States has just finished participation in a war and now has her own millions and the hungry population of the rest of the world to think about. No wonder, with the waste and extravagance of the last quarter of a century, that prices are now high. It is a distinct warning. The dogs of high living encourage low thinking and low living, or living in moderation, I should say, encourage high thinking. What shall it be? Will we become a race of gluttons and fashion worshippers or will we be a people of high thoughts and purposes?

Prof. George McCutchen of the University of South Carolina recently published in the Weekly News of that institution, a strong discussion of the cost of living. He says in part: "A general statement that prices have doubled since 1914 and have

trebled since 1896 would be more than warranted by the evidence furnished in the evidence given." The evidence referred to is a compilation of statements from Dun's and Bradstreet's and from the Annalist and from the Bureau of Labor Statistics in Washington.

CONVENTIONS ATTENDED.

The Department was represented this year at numerous gatherings of consequence where South Carolina's progressive work was generally commended. Inspector Holland, early in the year, was sent to New York to study the weights and measures regulations of that State. He came back with a plan for this State which has worked well. Capt. McCreight attended a meeting of the same nature in Washington. Mr. Banks accompanied the Commissioner to New Orleans, where he rendered valued assistance in organizing the American Cotton Association. He also attended a meeting of publicity men in Salt Lake City, where he got valuable suggestions for the handbook which the Department wishes to issue in 1920. Mr. Summers and Mr. Simpson attended meetings of chemists' societies and made good impressions by telling of the regulatory work being done in this State. Inspector Groeschel made a report upon child labor conditions in South Carolina, which was well received at the National Association of State Labor Commissioners, of which organization he was elected first vice-president. Mr. Banks represented the Commissioner at a hearing in Washington before the war trade board, and photographs presented by the Department were of great help to Senator E. D. Smith in securing the withdrawal of the embargo on importation of German potash.

The Commissioner made several trips out of the State for the purpose of aiding in the organizing of the American Cotton Association, and attended a meeting of the Southern Commissioners of Agriculture and of the American Association of Agricultural Commissioners in Chicago. The Commissioner was one of the principal speakers at the National Good Roads Association meeting at Mineral Wells, Texas.

MEN MUST BE PAID.

During the year 1919 the Department has had the same general experience of all organizations throughout the country. There has been so much change going on in the process of readjustment that the Department has felt the appeal of better salaries in other

occupations. Among the trained inspectors, men of experience, ability, and character whom the Department has lost are both of the mill inspectors—Bonner and Groeschel; and Inspectors Blackwell, Woodward, and Holland. The Chemical Laboratory lost the services of two assistants, Beard and Clark. While it has been possible to fill these places with competent men, yet it is obvious, in making changes, that it is necessary to train the new men. The Commissioner wishes to express his appreciation of the faithful services of all employees of the Department. It is evident that he must be permitted some latitude in raising salaries or he will probably have changes occurring during the year 1920, and the work of the Department will feel such changes.

GOOD MEN GONE.

The State of South Carolina lost three sterling citizens this year, three pioneers in progressive agriculture, three men of spotless career, whose lives might well be emulated by the young men of today. I refer to Colonel R. M. Cooper of Lee County, Colonel T. J. Moore of Spartanburg, and Mr. W. G. Hinson of Charleston. They were successful in their own undertakings and they were strong backers of the State fair and of local farmers' organizations. In the fight for better cotton prices no man over a period of years has been more in earnest or has attended a greater number of conventions where he was a powerful factor than R. M. Cooper.

NEW COUNTY.

One new county has been added to the roll in South Carolina since our last report. This is Allendale, formed of parts of Barnwell and Hampton, and embracing some fine farming lands on the Savannah River valley, between Columbia and Savannah, Ga. It is a small county and agriculture is its principal industry.

BACK FROM THE ARMY.

At the beginning of his term, the Commissioner was unable to get the services of a trained office manager, but the consideration of the legislature in increasing the salary of the chief clerk made it possible to engage Capt. H. W. McCreight, who was familiar with the duties of the office, and has been of valuable help.

The Chemical Laboratory was conducted by R. M. Simpson as chief chemist. A. C. Summers, former Commissioner, returned to the laboratory as chief chemist, after having sold his interests

in a mercantile business. Mr. Simpson has received numerous flattering offers to leave the Department, but the Commissioner is pleased to say that he has remained in the service.

Major A. Calhoun Doyle is the only employee of the entire Department to remain in military service. All others who came back were given their positions. One died in France, the faithful, intelligent office porter—Ben Wallace.

I wish to make a permanent record in my report of the noble response of the man power of our country:

SOUTH CAROLINA'S WAR RECORD.

Prepared by Reed Smith, Executive Secretary of the State Council for Defense.

Men in Service.

In Army (November 11, 1919).....	52,898
In the Navy and Marine Corps.....	6,425
Total.....	59,323

Liberty Loans.

First Loan	\$5,968,550
Second Loan	18,647,250
Third Loan	19,426,250
Fourth Loan	39,317,150
Victory Loan	22,094,300
Total	\$106,353,500

War Savings Stamps.

Amount Pledged	\$13,745,294
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Red Cross.

Members	90,647
Overseas Workers	30
Contributions	\$1,676,877

Y. M. C. A. War Work.

Overseas Workers	80
Home Camp Yorkers	72
Contributions	\$187,616

United War Work Campaign.

Total Subscription	\$1,148,247.09
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Grand Totals.

Men in Service	70,000
In Government Securities	\$120,098,794
In Gifts to Humanity.....	\$3,012,740

(Note—South Carolina, in the entire four years of the War of Secession, gave but 60,000 men to the armies of the Confederate States.)

AIRPLANES FOR FARMERS?

Automobile dealers are estimated to be behind in their orders to the extent of 1,000,000 cars, although there is now in use one car for every 18 persons in the United States. I saw recently an automobile truck whisking a load of telephone poles down the street. How that would have startled the "natives" twenty years ago if they could have come, unprepared, upon such a sight. And

yet the day may come when aircraft may be used and useful in farming. We may yet see the day when farmers will use planes to direct getting cattle out of the swamps and for other purposes for which an automobile would be helpless.

PLANT MORE SUGAR CANE.

On account of the national prohibition law, more candy is being sold today. One drug store in Columbia sold \$3,000 worth of candy to the Christmas trade, and this was not a store that caters particularly to that trade. It is said that the taste of candy is pleasing to "old soaks" who have been accustomed to their daily dram. I urged farmers to save sugar cane for seed-ing, for I predicted that the syrup would find a ready market at good prices. I am now more than ever convinced that this will be true, for it is a fact that the consumption of candy will be tremendously increased and South Carolina syrup would bring fancy prices if put up in pleasing packages. The normal consumption of candy in the United States is estimated at 1,400,000,000 pounds a year.

CAPITAL INVESTED IN COTTON.

The amount of capital invested in the cotton industry in all stages is thirty billion dollars. The value of the factories is estimated at six billion dollars. The annual production of fabrics, fifteen billion dollars. The present world requirements are 25,000,000 bales, and the United States will be able to supply less than 10,000,000. One of the annual hullabaloo stories put out to frighten the cotton farmers is that old one about England or some other European country proceeding to grow the weed in colonial possessions. The object of such propaganda is obvious. It is merely to frighten the Southern farmer. The land upon which the cotton would be grown is covered by forests primeval, in fact, by jungles. There are no transportation facilities. If the South is not producing enough cotton, the obviously natural thing for the buyers would be to take over some of our 50,000,000 acres of unreclaimed land, right here where they know cotton can be grown.

NATIONAL ASSOCIATION OF COMMISSIONERS.

This organization was perfected in May, 1916, with Col. E. J. Watson of South Carolina as president. The Association has been instrumental in accomplishing results in the past, as evi-

denced in the national marketing measure passed by Congress. During the war period the activities of the Association of Commissioners were not so pronounced, but it is my opinion that there will be effective work in the next few years.

Commissioner Harris attended the annual meeting which was held in Chicago during November.

ABSENCE OF LIQUOR IS GOOD.

I am optimistic over the prospect for 1920. The year just ended was topsy turvey. Of course it was, and who expected otherwise? For four years the world had given itself over, body and soul, to purposes of destruction. How, then, could it about face toward production? The platoons lost step in making the wide turn, but they are forming again, and will be in step.

I must declare that I do not know what would have become of our State if we had had the accepted sale of liquor during the last twelve months. We observed, all of us, what a blessing was prohibition in the neighborhood of camps during war times. But I consider that we have profited more by the absence of liquor in the last twelve months than we had done at any other time. There is some liquor, of course. Not a day passes without its record of some infant industry being taken in hand by the Federal Government and made to discontinue making the stuff that causes so much mischief.

But there has been no general use of liquor in South Carolina during 1919, and we must all be profoundly grateful. I think it is the duty of all good citizens to assist the law officers in ferreting out, running down, and punishing persons who would aggravate labor disturbances or other delicately poised situations by peddling liquor. The effect of a year of sobriety under new conditions is observed in the savings bank accounts, in the better clothes, in the happier faces. For I know that there is now bread and meat in thousands of cupboards that were scantily provided for, even when liquor was cheap.

The farm girls and boys of today are going to be the farmers and the home-makers of tomorrow. If the men and women of the future are to be capable and efficient, they must, at an early age, have the careful training and preparation that will prepare them for their life's work. We can reach and teach boys and girls even when older people refuse to become interested. One thing

we will not have to waste time upon in the coming years, we trust, and that is in educating the little ones to hate liquor.

FARMERS CAN ORGANIZE.

Southern farmers were amused by the antics of the bear speculators, who endeavored, through Secretary Houston, to get Attorney General Palmer to declare that the farmers had no right to organize to protect the prices upon their cotton. There was a hullabaloo in the papers, but the Attorney General saw that the agitation was not sincere.

Hard working and hard thinking farmers have the right to organize, and they must do so. If course, there is an improper kind of organization, just as there is an improper anything else. The man Tounley, who organized the New Partisan League, was convicted by a jury of Minnesota farmers who heard the charges of disloyalty made against him. That kind of organization is abortive and distorted, but the farmer will break over the traces and become Socialistic if he is not allowed to organize to correct certain evils and to fight back against the wolves that have been preying upon the unorganized, leaderless, helpless herd.

THE UNOBSTRUCTED CHANCE.

One thing from which South Carolina has suffered little as yet, but may feel later, is the need of an unobstructed chance which is so much demanded in some sections. Thirteen months after the cessation of hostilities we are yet living under war conditions. It seems unpardonable that the United States Senate should have kept us out of peace thus long. I look for a restoration to normal whenever the treaty is acted upon. It may be an entirely new normal, for, I think, we can never go back to "pre-war" conditions of life and prices of commodities and of labor. When that day comes South Carolina industries will be in beautiful financial condition, I believe and hope.

OPPORTUNITY IN WOOD PULP.

During the later months of this year we have heard complaint that the great New York daily newspapers are wasting so much paper that the weekly papers and some small dailies may have to curtail their editions. I cannot believe that such a catastrophe actually will happen, but I do know that it would be nothing short of a crime for our home papers to suffer for the prodigality and waste by the so-called great dailies. I believe no paper is

really any greater than the little country weekly if it is a good weekly and carries a good message.

But—what a travesty it would be for any of our papers to have to suspend because of the shortage of white paper—for at our doors is standing timber enough to furnish fibre for all the newspapers of the United States for an indefinite period.

I am informed by J. C. Bruton of Columbia that he has in his control 10,000 acres in the swamps, a few miles south of Columbia, heavily timbered with gum and other hard woods, suitable for newspaper pulp. He has a logging railway about 18 miles in extent, and the land is provided with an abundance of clear, sand hill water.

In 1916 Col. William Banks, while president of the State Press Association, endeavored to get a pulp mill started in this State, but the paper trust had tied up all of the pulp making machinery. It does seem that, in the interests of safety, if not economy, Southern newspaper men might make use of this gold mine, right at hand.

Since the publication of the foregoing statement, Commissioner Harris has received the following letter from Paul Quattlebaum, Secretary of the Chamber of Commerce of Conway:

“We note in your annual report you refer to the fact that there is in this State timber suitable for paper manufacture.

“We are glad you are calling attention to the fact, and would like to advise you that there is in this county many million feet of untouched hardwood in our river swamps.

“We have one plant now making three-ply veneer out of gum timber, but there is room for many more plants. The Waccamaw River has a total length of 310 miles and is bordered by swamps on one side or on both sides, all the way. This will give you some idea of the extent of our swamp timber. Practically none of the hardwood has been touched.

“With the fine navigable river that we have, with a 12-foot channel up to Conway, giving no competitive water rates on freight, we are in fine position to invite any one desiring to establish any kind of manufacturing plant using timber. We would, therefore, be pleased to have you refer to us any parties you may come in contact with who are interested in developments along this line.”

PAY INCOME TAX.

The Commissioner may go afield in offering advice of a certain kind to the people of South Carolina, and especially to the farmers. Do not evade or avoid the Federal income tax. While farmers should be allowed every opportunity to put in their own time and labor as exemption, yet it is equally true that if they owe the government anything they should pay it. This course is both right and expedient. If the farmer does not now help to bear the burden of the government, he will have it to do some later day and in a different manner.

FERTILIZER NOTES IN FEBRUARY.

There is one great economic weakness in the financial system, or lack of system, of our State. I refer to the fact that all of the farmers' fertilizer obligations fall due in November. That is one of the causes for the slavery of the farmer to a one-crop agriculture. He had to borrow money to buy fertilizer and he couldn't pledge anything but cotton to get the use of the money.

The fertilizer dealers made the notes payable as soon as the new crop of cotton came in, allowing the farmer no latitude in the matter of meeting his obligations. He just had to sell his new cotton to pay the notes. This made it possible for the bear speculators to keep cotton down in price, and the poor devil of a farmer was in a treadmill, year after year, grinding, grinding, and getting nothing for himself.

I have long thought that if we could get the fertilizer notes made payable in two instalments, one in the succeeding fall, and the other in February, this would provide a safety valve for the farmer. Accordingly, I addressed, on the 17th of June, the following letter to the State Bankers' Association, then meeting at Tybee, Ga.:

"I want to take this liberty of thanking you, for the farmers of South Carolina, for the help you have given them in holding their cotton off of the market until it has reached at least cost of production. If you had not come to their rescue, South Carolina would have lost millions of dollars. If this cotton had been forced on the market, it would have gotten out of the hands of the farmers for 15 to 18 cents a pound. For the advance the cotton has made since the 1st of January, the credit belongs to the liberal bankers of our State.

"I realize that after the farmers produce their cotton, then it is up to the bankers to finance his products so as to give him a profit. Prosperity cannot come to our country if the farmers are not prosperous. When the farmers are prosperous, all other business is prosperous.

"I need not tell you bankers that the farmers, generally, are very poor business men, for no one knows it better than our bankers. The farmers make all notes and money they owe come due from October 1st to December 1st. By this system of doing business the world knows just what amount of money the Southern farmers owe, and, of course, their indebtedness has to be paid out of the cotton crop.

"Under such system, this is what has happened for the last 40 years to my knowledge. During that period the cotton market has always been depressed. I want to ask you bankers if it would interfere with your banking system to change this system, so as not to interfere with your profits in banking by making one-half of the farmers' indebtedness come due, say, November 15th, and the other half February 15th.

"This method would distribute the selling of the cotton over three months. I merely suggest this for your consideration, knowing that you are business men and, I believe, are willing to do anything that will make the South the greatest country in the world. All we have to do is conserve our wealth and turn it back through the business channels of the South.

"I have been talking with some of the biggest fertilizer dealers in this State about making their notes with the farmers payable one-half November 20th and the other half in May. They all speak very favorably of this plan, and I believe that this arrangement can be perfected. If it can be, it will be of great benefit to the prosperity of the South."

The Bankers' Association received the suggestion favorably. The then president, Mr. J. S. Wannamaker, informed me that it was about the most important matter brought before the convention. I don't think any legislative action on this matter could be taken, but I hope that public sentiment will be created in the State and that this plan will be adopted and put into effect.



THERE WERE MANY ACRES IN SOUTH CAROLINA WHICH FELT THE EFFECT OF THE BORAX IN AMERICAN POTASH IN 1919.

THE "TAG TAX RECEIPTS."

The State Treasurer's books show receipts from the sale of privilege fertilizer tax tags, years 1891 to 1918, inclusive, to be:

Year.	Amount.
1891.....	\$53,285 85
1892.....	36,108 98
1893.....	50,243 95
1894.....	43,423 88
1895.....	30,135 93
1896.....	54,524 37
1897.....	59,352 33
1898.....	65,494 33
1899.....	62,123 88
1900.....	75,214 34
1901.....	81,749 94
1902.....	84,073 43
1903.....	98,909 40
1904.....	118,974 15
1905.....	130,439 53
1906.....	167,258 39
1907.....	150,984 81
1908.....	172,234 76
1909.....	202,741 31
1910.....	240,098 95
1911.....	255,082 49
1912.....	221,999 58
1913.....	240,448 43
1914.....	266,064 09
1915.....	162,490 35
1916.....	181,331 09
1917.....	243,790 87
1918.....	257,141 87
1919.....	269,000 00
Total.....	<hr/> \$4,074,721 28

This revenue, which in its last analysis comes from the farmers, has gone to the support of Clemson College since 1894, by way of the fertilizer inspection work there. The sales for 1920 have started heavily and this will be the "bumper year" for commercial fertilizers.

THE HIGH COST OF RATS.

The life of the farmer should not be one of immoderate toil during a portion of the year and indolence during other times. Farming is a business, and should be conducted with as much system and evenness as any other business. We don't hear so much now of the "laying by time," a portion of the summer when the crops are supposed to be cultivated sufficiently.

There is something to be done on the farm, the Southern farm, every day in the year. If it is nothing more than mending harness, it should be done on rainy days. In the winter there is enough to keep the real farmer busy every day if he will attend to it. Ditches, fences, roads—all of these should have a farmer's attention. And there is something else which the farmer could do that would save him lots of money—and that is to kill off the rats.

I do not know with what accuracy, but it has been estimated that the rats destroy in the United States about \$200,000,000 worth of property every year. This would be \$1,500,000 for South Carolina, or about one dollar for every man, woman and child. I was much interested in rat proof barn and crib exhibits at the State fair, but I thought how much better it would be for the State to pay a bounty and have the rats killed.

NITRATES PLANT.

It is unprofitable to cry over "spilt milk," but an observation in regard to nitrates may not be amiss. Columbia was the logical point for locating one of these plants to extract nitrogen from the air. The Federal Government seemed to be dazed by the immensity of the Muscle Shoals water fall and located one of the proposed plants there, although they were solemnly assured by engineers that it would require four years to get it into operation. The other plant was located in West Virginia and seems not to have been completed, judging from the remarks of Senator Elkins in the United States Senate a short time ago. I may be mistaken, but my information is that not one pound of nitrates has ever been turned out by the government plants. Had one of them been located in Columbia, it could have been in operation within four or six months and the farmers might today be enjoying an agricultural necessity for this section, but now a luxury almost out of reach.

WHEN COTTON GOT THERE.

On the 23rd of October, at Garland, Texas, 50 cents a pound was paid for good middling cotton. On the same day, at Palestine, Texas, Rip Cook sold for 40 cents a pound a lot of cotton he had been holding two years.

COST OF BOLL WEEVIL ALREADY.

What has the boll weevil cost South Carolina already? The Commissioner is unable, of course, to do more than to hazard his belief. Based upon the difference in production in 1918 and in 1919, the production of cotton in the territory invaded by the boll weevil fell away from 223,114 bales to 165,810, a difference of 57,304. Assuming that all of this decrease is due to the boll weevil and not to weather conditions, the loss would be \$11,460,800, with 40 cents as the price of cotton. This does not include the sea island cotton industry, which was almost a total loss. Of course, I know that the weather caused a great part of this loss, but even 50 per cent. thereof would be alarming. Beaufort County alone suffered a loss of a million dollars this year from the boll weevil. In Jasper County, I am told, two large gins which turn out hundreds of bales annually, were not started up this year on account of the weevil.

OUR OYSTER BEST.

Years ago it became known that the oyster of the South Carolina coast was superior in flavor to the imported product. The packers found its qualities better for canning. Attention was paid to gathering them for this purpose, but the methods meant wholesale destruction of beds. The factories simply meant to clean out a locality and move on to another location, sometimes to another State. Regulation then became a necessity, and it was due to the ventilation of the conditions by myself that led to the formation of the present board of fisheries.

Other States had already taken action, so the factories were confronted with regulations anywhere they went, and outside of South Carolina the regulations were generally more rigid.

INLAND WATERWAYS NEGLECTED.

"Navigable waterways are intended primarily for commerce," says one of the resolutions adopted by the Rivers and Harbors Congress, "and the expenditure of public moneys can only be justified when they are to be used for this purpose. The improved

waterways which only offers potential use and thereby coerces lower rates by rail competition with such waterways does not justify its improvement." It does seem to me that our navigable streams could be of use to us, especially when we are confronted with national disaster on account of coal strikes.

PROTECTING THE GAME.

The Chief Game Warden of South Carolina reports that fees from hunting licenses in the State during 1919 were \$89,160.91, and but \$28,837.78 in the year preceding. While the game warden has been very strict in enforcing the laws, it also appears from this that more people had the time to go hunting and more money to buy licenses. There appears to be a fair amount of quail this year, but not many rabbits in some sections of the State. I have heard of some wild turkeys. There are a great many wild ducks. Deer seem to be in abundance, from the stories that the hunters are telling. There does not appear to be much unlawful hunting this year. Mr. Gibbes is determined to enforce the laws.

FIVE MILLION FOR SCHOOLS.

The statistical report of J. E. Swearingen, State Superintendent of Education, to the Legislature, covering the scholastic year July 1, 1918-June 30, 1919, shows a total available school fund of \$5,090,712.82. For the first time in the history of the State's educational system, the annual school revenue has exceeded \$5,000,000.00. The total school fund reported for the scholastic year 1908-1909 amounted to \$2,345,647.72. The gain during the last ten years is, therefore, \$2,745,065.10. The total school fund for the scholastic year 1913-1914 was \$3,520,130.65. The gain during the last five years is, therefore, \$1,570,582.17. This gratifying growth is a direct result of the universal interest of the people. The increased funds have been secured through local taxation stimulated by legislative appropriation.

CHANGE IN FISCAL YEAR.

I wish to endorse the suggestion of Rut. L. Osborne, Comptroller-General, for a change in the fiscal year. This Department has urged such a move for several years. I suggest, further, that the best way for the Legislature to proceed would be to meet, as required by the Constitution, and take a recess for three weeks and give the printers time to catch up with the great volume of State reports given to them on the close of the fiscal year.

AGRICULTURE.

AGRICULTURAL AGENCIES.

When this department was projected some 16 years ago, interest in agriculture in this State was dead, apparently. But—what a change since then has taken place. Numerous undertakings and bureaus for service have been put on foot by this department, and many of them have gone off to themselves and made successes. I refer particularly to the State highway department, the farm extension service now at Clemson College, the boys corn clubs, etc.

There are numerous agencies now at work, other than the governmental. In 1916 the seed crushers endeavored to get the farmers to plant soy beans; the railroads are doing educational work and one of the notable features of the year was a beautifully illustrated publication on the agriculture of South Carolina issued by the United States Railway Administration and compiled by Guy A. Cardwell of the Atlantic Coast Line.

Sometimes I think that there are too many agencies to help the farmer, that they are merely confusing him instead of directing him, but again I realize that the work is big enough for all to help. The State Cotton Association will do special propaganda work in 1919 to fight the boll weevil.

There are numerous organizations among the farmers themselves, but one of the newest and most active is the South Carolina Landowners Association, of which George R. Wheeler of Charleston is manager. A branch office was opened in Columbia in December, 1919. This association has cut out for itself a big program, and it will no doubt accomplish a number of things and will assist in accomplishing many others. Really that is the greatest kind of uplift work, just helping along.

Senator Niels Christensen, of Beaufort, and other men of prominence, influence and unquestioned patriotism are backing the Landowners Association, which is a unit among other associations with headquarters at Baltimore, Md., under Clement S. Ucker.

Here is a brief outline of the things the South Carolina Landowners Association stands for:

Good roads and a statewide highway system.

Better schools and nine months' school for every South Carolina child.

Extensive drainage and extension of the Federal reclamation policy to swamp and cut-over lands.

Sanitation and the elimination of the fly and mosquito.

More milk and better milk for South Carolina babies, children and grown-ups.

Strict enforcement of the cattle tick law; concentrated effort to suppress hog cholera.

Introduction of the live stock industry on a broader scale and to facilitate the profitable marketing of live stock and other farm products.

Propagation of grasses and forage crops.

Adequate appropriation for agricultural education.

An effective dog control law to make the sheep industry possible.

Amendment of the chattel mortgage laws and other measures to improve the security of live stock and extend its use by banks.

A comprehensive State and Federal policy for the encouragement of farm ownership, especially for the benefit of soldiers, sailors and industrial employees.

Land settlement and the utilization of the 11,000,000 acres of fertile idle land within the State.

Development of the natural resources of the State; minerals, waterpower, etc.

THE STATE FAIR.

On account of the influenza epidemic, there was no State Fair in South Carolina in 1918. There was a very creditable fair in 1919, but nothing like the kind of State Fair that South Carolina should have. This is said not in criticism of the officials—but for their encouragement. They, no doubt, do the best that they can with the funds at hand. The overhead expenses had been going on for two years with only one year's income.

Therefore at the annual meeting of the members of the State Agricultural and Mechanical Society in Columbia during fair week, Commissioner Harris moved that the legislature of South Carolina be requested to provide \$5,000 to be used by the association in giving additional prizes for the encouragement of diver-

sified agriculture on account of boll weevil conditions. After some discussion it was decided to ask the legislature for a larger amount, to be used as stated above, and also for general premium purposes. This has the hearty endorsement of the department.

There was an unusually fine display of farm machinery, poultry, and hogs at the fair. The Commissioner was disappointed in the sheep exhibit. The display of milk and beef cattle was one of the best in the history of the State. Very noticeable was the great string of prize ribbons awarded South Carolina Guernsey cattle by fairs in mid-west States, and by prizes to South Carolina Berkshires.

There was a fine exhibit by the Federal government, and Clemson College had quite a handsome exhibit, as did Winthrop College.

The building of the State Department was used for novel purposes during the fair. There was an unusually creditable exhibit of cotton fabrics and garments from the textile mills of the State and much interest was taken in the display of condemned scales and weighing apparatus. The statistics compiled by the inspectors in the weights and measures bureau attracted great attention.

But the feature of the program during three days was the noonday practical talk given under the auspices of the Department. So much interest was shown that the Commissioner feels encouraged to try to get a small chautauqua tent for such talks on a more varied scale during the next fair.

Among the speakers on the program were Dr. A. F. Conradi of Clemson College, State entomologist, who made a very practical talk on the boll weevil; Mr. C. A. McFaddin of Manning on the growing of tobacco, and Commissioner Harris on the American Cotton Association.

In addition to the State Fair, there were numerous very successful county fairs, including Andrews, Orangeburg, Sumter, Chester, Bishopville, and Spartanburg.

The greatest exposition in the State during the year was the biennial meeting and show of the American Textile Association at Greenville. Cotton mill managers from many States were gathered, and this was a most wonderful occasion.

The fair is an educational institution and in no sense a money-making business. It can be made a success only by intelligent

management and the full support and co-operation of all classes and professions. Should we regard the money put into the fair as an investment, from which we are to receive annual dividends in dollars and cents, it is quite likely that we shall be disappointed.

Many farmers pay high prices for inferior planting seeds and breeding animals because they are unable to discriminate between the good and the bad. Many women use scrub poultry and lack a knowledge of home conveniences. The agricultural fair is a first-class school for teaching men and women, as well as boys and girls, how to judge field and garden crops, poultry and live stock.

Education of the right kind helps people to become better citizens and to live more useful lives. Since the population of our commonwealth is largely rural, it behooves us to give our boys and girls the training that will best prepare them for their life's work as farmers, homemakers, husbandmen and community builders.

The farmer and his family, after working patiently and faithfully for twelve months, richly deserve a short vacation, and the clean, wholesome fair meets this demand in every particular.

SOUTH SHOULD BUILD WAREHOUSES.

The South owes nothing to the spinners of Great Britain, and just at this writing they do not appear to be getting much out of the South. After the close of the War of Secession, the South was even more impoverished than are now some European states, over whom so much sympathy is being expressed. Thank God, the South came through her fiery trials alone, and she has come through!

In 1865 the northern part of the United States was under a financial strain and the South was without finances, or financial hope. England then stepped in, built the warehouses and bought up our cotton crop at a figure which we would not deem prodigal. The price was thus controlled by Liverpool for many years. Things are different now. Great Britain no longer is the great creditor and the South is no longer mortgaging her cotton crop. But the South should follow Britain's example and have her own warehouses. The American Cotton Association is not a cotton holding or withholding agency, merely, it is a cotton marketing

society. Without warehouses it would be impossible to market properly.

SMOKING OUT LAND HOGS.

The whole United States was interested in the spring of 1919 in a controversy between Henry J. Allen, Governor of Kansas, and J. Skottowe Wannamer, President of the American Cotton Association. Of course I think that our South Carolina man got the better of the argument. Governor Allen gave to the Associated Press an interview in which he denounced what he conceived to be the immorality of the cotton farmers organizing for their own salvation. Mr. Wannamaker replied with spirit, but yet with diplomacy. That interview by Governor Allen made the Cotton Association. It cemented the Southern farmers as nothing else could have done.

Twice since then has Governor Allen come to the front, and both times he showed himself to be a man, and we are proud of such a big man for an opponent, for we know that he is merely misinformed about cotton conditions. One of the big things by Governor Allen was to tell the striking coal miners that the State of Kansas didn't need them, and he called for volunteers to work the mines—and got them.

But the thing that causes me to admire the Governor of Kansas is an article that he wrote for *The Country Gentleman* in which he denounces "absentee landlordism." I do wish so much that I could give his entire article here, and I will ask the agricultural papers of this section to print extracts from it. He certainly hits the nail on the head, and what he says of Kansas is true of South Carolina. He declares that the farmer who improves his place pays too much taxes, while the fellow who does not pays too little. "My hobby," says Governor Allen, "is to make it easy for any worthy man who wants to be a farmer in Kansas to buy a farm and pay for it gradually and easily, to make life in the country more attractive and to stop this increase in farm tenantry, which will ruin our country."

He denounces farmers who own great bodies of land and will neither sell nor try to grow crops thereon. He is proposing three constitutional amendments to remove this trouble in his State and to pop the taxes to such drones until they feel it. There is need for some of that kind of legislation in South Carolina.

There is on our statute books a law against the ownership of our lands by aliens. This is Section 2689 of the Code of 1912, Volume II. The Act was passed in 1896, but has been so amended as to pull its teeth. In fact no penalty appears to have ever been enacted and a law without a penalty is more or less of a nullity. The Act sets out to say that "no alien, or corporation controlled by aliens, either in his or its own rights or as trustee, shall own or control within the limits of the State more than 500 acres of land." There is a proviso that aliens may hold for five years lands then under a mortgage or purchased under proceedings, etc. Another proviso is to the effect that vested rights should not be affected. "Nothing in this Act shall apply to lands already owned or controlled by persons or corporations referred to, nor to lands already mortgaged to such persons or corporations."

VALUE OF THE PEANUT.

In a letter to the Editor of the Columbia State in which I referred to a Bulletin on Peanuts prepared for us by Mr. Edward R. Eve, of Charleston, I stated:

"I wish also at this time to thank The State and other newspapers for publishing throughout the summer my appeals to the farmers to sow turnips, then wheat and oats. Also my articles with reference to sugar cane planting, and my suggestions for the herding of sheep and other forage animals. All of these things will help combat boll weevil conditions. For myself, I do not dread the boll weevil, but rather welcome him except for the temporary hurt that will be done to the heedless persons who have turned a deaf ear to all warnings since the lamented Colonel Watson first began to try to arouse the people to prepare themselves for the coming of the destroying pest. South Carolina will survive and thrive if the people can get markets.

"The oil mills will go out of business if there is no substitute when the boll weevil reduces the cotton yield—as he will do. It is necessary in self-protection for the oil mill to have peanuts to crush or their great industry will suffer, and the farmers need the industry for a ready market. However, in the planting of peanuts, as with all other forms of agriculture which require a market, the farmers must organize themselves to see that they get a living wage out of their soil. They have had to do this in cotton after half a century of suffering at the hands of the cot-

ton gamblers, they have had to organize to market tobacco, and it were better for them in planting peanuts to organize in advance and have a complete understanding among themselves and with the crushers. It is possible that they might use the machinery of the American Cotton Association and thus save overhead work and expense."

A PEANUT BANK.

Those who are considering the peanut as a substitute in part for cotton may be interested to know that already the 3,000,000 acreage given to peanuts is nearly one-tenth of that given to cotton. The return from the peanuts alone is \$60,000,000, and this leaves the hay crop as surplus. Thus it will be seen that peanut growing in the South is no new industry. In fact it got its real start in the territory around Suffolk, Va.

The most remarkable banking institution in the United States is located at Suffolk. It is known as the Peanut Bank. It was started with a capital of \$20,000, which has never been increased. But the reports show that it has surplus of \$500,000 and undivided profits of \$200,000. It is rare for the bank to declare less than 100 per cent. dividend. The owners and managers of this bank soon after the War of Secession encouraged the farmers in that section to plant peanuts. As a result the people have become wealthy and the bank is a marvel. There is a field and an opportunity in South Carolina.

TOMATO PACK SHORT.

The tomato pack of the 1919 season is said to be only 17¼ per cent. of the pack of 1918. The total for the United States in that year was 15,882,000 cases. I do not know whether the 1919 crop is estimated correctly, but those are the figures published. "We expect to see tomatoes go as high in price as the consumer will pay," says The Optimist, the official organ of the tomato packers.

We cannot understand why the South is not used more generally by the vegetable packers. Mr. Heinz, with his 57 varieties, cannot put up anything more savory than the cooking of some of our "Dutch Fork" housewives. South Carolina would be a great field for the growing of cucumbers for pickle and cabbage for kraut. Our people need encouragement in these things and we hope to see 1920 a good year in this field.

Tomatoes thrive in South Carolina and the catsup makers could well transfer some of their plants to this State and get tomatoes in plenty and without transportation.

TOBACCO MARKET STIMULATED.

The tobacco farmers of this State would have been nearly four million dollars better off if they had received for their July sales the same prices that they got in 1918. As it was, 1,000,000 more pounds were marketed this year and the actual receipts were \$3,000,000 short of July, 1918. We are privileged to infer that somebody, somewhere, somehow "made a killing"—and it wasn't the farmer.

As stated elsewhere in my report, the tobacco growers organized at Florence upon a call issued by Governor Cooper and myself and a committee of growers. The object was to discuss and try to remedy the low price of lugs being marketed at that time. I am informed in a letter from W. E. Lea of Timmons-ville:

"I can say that the object for which this meeting was called was soon remedied by a continuous rise in prices on all grades which has never stopped. Tobacco today is one of the highest agricultural products being offered by the farmer. The bright belt in North Carolina and Virginia looks as if it will average at least 55 cents per pound to the grower.

"Some farmers who were not damaged so badly by the rains will receive over \$1,000 per acre for their crops. These unusually high prices are due to the continued increase in demand for our types of bright leaf, and to the shortage in the crop due to excessive rains in the summer. The extent of this damage seems to have been greatly underestimated by the manufacturers and exporters while the South Carolina crop was being marketed.

"The greatest need of the South Carolina tobacco grower today is more time in which to market his crop. The congestion grows worse and worse each year. The South Carolina Tobacco Association by co-operation with the two Warehouse Associations of the State could accomplish great good for the tobacco grower along these lines. As the boll weevil continues to spread in this State tobacco will be depended upon more and more as a money crop, and nothing should be left undone to help the planter in every way possible.

"Therefore, we would strongly recommend that the South Carolina Tobacco Association hold its organization together."

SHIP HOGS FROM BERKELEY.

It is a matter of almost daily chronicle to observe in the newspapers where some enterprising South Carolina farmer has shipped a carload of hogs to Richmond and other markets. The Boykin farms near Camden have been notably successful this year.

But it is unusual to consider that Berkeley County is coming to the front as an exporter of hogs. Some years ago this rich section of the State was regarded as the Valhalla of the mule foot hog and the razor-back. The great swamps of the county contains hundreds, perhaps thousands, of hogs in a more or less wild state. But some of the most progressive farmers of the State are pushing Berkeley to the front. John W. Hart on the 20th of December received \$2,200 for a carload of hogs of his own raising, shipped to Richmond from his farm at Holly Hill.

J. Fred Shuler has a Poland-China, two years old, weighing eight hundred pounds, for which he refused \$2,500 at the State Fair. People thought that a big sum to refuse, until he announced that he sold two thousand dollars' worth of his offspring while at the State and Orangeburg fairs.

LEGUMINOUS CROPS.

In 1914 the Department obtained authority to give to the public at actual cost the inoculation necessary to get best results from leguminous crops. While very gratifying results were obtained by all who used the bacteria, yet this kind of farming did not make a general appeal and the Department found it unnecessary to keep open an office for the dissemination of the inoculation. However, we maintain a connection with the manufacturers and a great many orders have been forwarded this year through our office. We have no reports of lack of success. The Commissioner deplores the fact that a greater number of our farmers do not use farmogermes and other legume accelorators. Our soil is in a deplorable condition from too much chemical fertilizer, not properly applied, and the greatest good that could be done for the soil would be to see 75 per cent. of the land in South Carolina sowed down in cow peas and other legumes. There is a great market today for all leguminous crops, hays, and the seed thereof.

A BIG CROP DEPRESSES PRICE.

A great cotton crop weighs down the cotton market. In that case the bale is the greatest bear in the market. No bull movement can absorb an overproduction when there has been a heavy carry over. That was proved in the case of the 1911 crop when with the prospect of a 16,000,000 bale crop the price went to 9 3-4 cents. That being the case it is difficult for a hard-headed farmer to understand why a 10,000,000 bale crop should not bring what it is worth, under the same law of supply and demand. A big tobacco crop, a big peanut crop, a big melon crop, a big vegetable crop will depress the market unless the farmers are organized to protect themselves, to get transportation, rates, and other facilities. There's no use to go it blind and farm in a hit or miss fashion any longer.

DRAINAGE TILING.

There has not been much demand for drainage tiling in 1919 although I anticipate quite a revival in clay products manufacture in 1920. The brickmakers have had the usual complaint—no labor. The building of roads, with bridges and culverts, and the drainage of swamps will call for an increased use of tiling next year. In Anderson County this year something like 30 miles of drainage canals were cut at a cost of \$60,000 to \$70,000 and they have made arable land now worth perhaps a quarter to half a million dollars that otherwise was worthless.

The effect of tile drainage upon our coastal plane soils is almost instantaneous. One does not have to wait for a year for the land to sweeten, but the proper use of lime will make the new land available for planting the same season that it is drained.

VALUE OF MANURE.

While I would not discourage our farmers in the use of commercial fertilizer, where they know how to apply it to get results, yet I would appeal to all farmers in South Carolina to practice common sense in their farming and to use all of the stable manure that they can obtain. I have been making a study of this question and I find, from experiments made by the Pennsylvania Experiment Station, that at present prices of the three elements of plant food as bought in commercial fertilizers, every well kept farm horse produces in one year \$31.67 worth of plant food, every dairy cow \$38.75 worth, every sheep \$3.86 and every hog \$3.72 worth. These figures were compiled after years of tests

made at the Pennsylvania Experiment Station and have been confirmed by the work from other sources. In addition to this amount of plant food, manure furnishes a great deal of organic matter or humus, which although not plant food in itself, makes that already in the soil available, makes soil work easier and increases its water holding capacity.

The Indiana Experiment Station authorities made this statement after several years' tests and trials: "A ton of manure is worth exactly what it will produce in crop increase, minus the labor of handling it"—and these increases were stated to be in one instance:

Wheat, no manure.....	11 bu. per acre
Wheat, manured	30.7 bu. per acre
Corn, no manure	35.9 bu. per acre
Corn, manured	61.9 bu. per acre

This is putting to the farmers more plainly than I can express it that he who does not save is a double waster.

TURKEYS SCARCE.

There is one crop in South Carolina that appears to be short, and that is the turkey crop. The turkey is an American bird, and was unknown to Europeans until the discovery of this country. By 1530 the turkey had become numerous in England, where it issued a challenge to the national dish—Roast Beef.

Turkey production has been reduced to an alarming extent in the United States, from 6,500,000 in 1910 to 2,000,000 in 1919. The lack of range has had a lot to do with the decrease in the number of turkeys, and the fice dog is an enemy. Turkeys are not the easiest fowls to raise, but the prices that they are fetching in 1919 should insure a larger production next year.

OBNOXIOUS OLEOMARGERINE LAW.

During the progress of the war we heard much of the need of conserving the world's supply of fat. The war diminished the population of the world, it is true, but the available supply of fat was also reduced—and yet, since the armistice, we do not hear so much about fat.

Having long been a dairyman, I am, of course, prejudiced, as to supplying my own needs, in favor of butter made from rich Jersey milk. Yet, I must realize that if the livestock of the

country were the sole supply of fat, we would be in a sad predicament. The oil of the cotton seed has never been so much enjoyed and appreciated so much as it is now. Therefore, I say that Congress has by legislation made it difficult to increase the world's supply of fat. Oleomargarine may not be so tasteful as butter to persons reared upon the farm, but there are hundreds of thousands who enjoy it, and would feel deprivation without it.

On their behalf I think the American Cotton Association and every other Southern agency and organization should urge that this nefarious tariff be relieved. Whatever else may be said of oleomargarine, is not unwholesome.

"COMING ILLS" CAST THEIR SHADOWS.

"The boll weevil menace to most of the people of South Carolina seems distant, but it is coming nearer and nearer with each succeeding season. Already I am shaping my efforts with a view to preparing to face the conditions that will have to be met." Thus wrote Commissioner Watson in the summer of 1913. Being well informed himself he tried to arouse the people. Much of the State's great growth in agricultural matters is due to the zeal of this man who was not fully appreciated during his life. On account of his declining health he was unable to make the official visit with the boll weevil commission in 1915, but the Department at that time and now was aroused to the significance of the menace and ready to share in any work to protect the people against a fate so inescapable.

SEA ISLAND COTTON GONE.

I fear that another industry has been added to the archives of the past. With the coming of the boll weevil, the Sea Island cotton crop of South Carolina is a total loss. The salvage will not be more than 10 per cent. and the planters will no doubt be discouraged from growing it again. South Carolina in times gone by was noted for her fine and extensive crop of indigo and rice—all gone. And now to that list must be added sea island cotton. This was a beautiful, silky staple that brought quite a premium, selling for about twice as much as upland cotton. It was picked with the greatest care and sent in bags to English spinners. For a time, at least, sea island cotton will be numbered with the things that were. In 1913 there were 8,176 bales ginned in this State.

SALE OF LINTERS NOT USED IN WAR.

A news item of interest to the South was the statement on the 17th of November that Ellis P. Earle had been selected by the War Department to dispose of 700,000 bales of linters. Had the war continued these would have been used in the manufacture of gun cotton. These linters are located in powder plants and in 500 oil mills in the South, and 325,000 bales have been ordered to be concentrated at Charleston in the storage warehouses. Moving the linters was a great relief to the oil mills. Some of these linters are suitable for mattresses and other commercial uses. Mr. Earle's commission on the sale will be $2\frac{1}{2}$ per cent.

CANNED GOODS.

In 1913 Commissioner Watson sounded the war cry against the people of South Carolina buying canned goods away from home instead of canning the products of their own fields, gardens and orchards. Since that time there have come the tomato clubs and the other useful organizations which have taught the people how to save.

The fruit crop in South Carolina was almost a total failure for canning purposes, but there was a bountiful berry crop. Some of this went into wine, as allowed under the Federal prohibition, but the pack of vegetables and berries was quite large.

The melon crop was good and the prices received were astonishing. We were paying here for home grown melons as much as they retailed for in Boston a few years ago. The Commissioner thinks that the absence of potash from the soil has affected the fruit and vegetable crops somewhat. For that reason he is well pleased with the part that the Department has taken to get the embargo lifted so that European potash might be brought to our farmers.

The State of South Carolina is yet buying a vast amount of canned goods. In 1913 Colonel Watson estimated the amount at \$13,985,000. We wish that this could be avoided—yet for how much are we indebted to the homely tin can! It is not given to all persons to have the opportunity to grow vegetables and to can them for home use or for sale. Therefore, in these days of trifling labor, scarcity of wood and coal, and too many other cares, life would be less endurable than it is if it were not for the tin can—and its contents. Perhaps not as delectable or as wholesome as the "home made", but enough to nourish and to

sustain the people who are herded together in centres of population.

The Commissioner would like to see home canning pushed to greater service than it has yet been. It was not enough to have "war gardens." That was an emergency which has passed, but we would be far richer by the experience if we would continue the work then undertaken. If Mr. H. J. Heinz, delightful gentleman that he is, can manufacture and distribute from Philadelphia his "57 varieties" of pickles and preserves, it does seem that South Carolina could have a plant that would go him a little better.

A FARM PAPER.

South Carolina has an agricultural paper which promises to be a financial success after many difficulties—The Carolina Farmer and Stockman. This paper is under new management. The Charleston News and Courier issued a very valuable farm supplement in February of this year and another in November, all seeking to encourage the farmers in the boll weevil section. In fact, nearly every newspaper in this State is neglecting no opportunity to help the farmer, and all have given valuable aid to the Cotton Association.

THE USE AND MISUSE OF FERTILIZERS.

The story of the growth of both the use and misuse of commercial fertilizers in the State of South Carolina is almost unbelievable. In 1889 the State of South Carolina paid out \$4,494,410 for commercial fertilizers. By 1909 their annual fertilizer bill had jumped for mixed fertilizers alone to the vast sum of \$15,162,017 or 237.3 per cent. This last figure for the year 1909 is the Federal census figure, and does not refer to the actual cash outlay for fertilizers. As a matter of fact, in that year the farmers of this State paid, according to the official records, \$18,772,515 for commercial fertilizers alone, and used in addition for fertilizer purposes cotton seed meal to the extent of \$3,658,330. The census figures were made up on returns from only 140,303 farms. In the same year there was spent in the United States for commercial fertilizers the sum of \$114,883,000, it thus being seen that the State of South Carolina by 1909 was using very nearly one-fifth of all the commercial fertilizer bought and sold in the United States. It is noteworthy, and yet sad to relate, that of this vast amount of money the sum of \$75,752,296 or 65.9 per cent.

was spent by the people of the South. Of this amount \$59,625,-130 was spent by the people of the South Atlantic States. On the basis of the 1910 census figures about 19/20 of the expenditures for fertilizers in the entire United States was from the sections east of the Mississippi river. The leading States in expenditures in that year on the basis of the Federal figures were Georgia with \$16,860,000; South Carolina with \$15,162,000; North Carolina with \$12,263,000, and Alabama with \$7,631,000. The average expenditure per acre for fertilizers varied from one cent in the West to \$1.23 per acre in the South Atlantic States. Texas spent but little more than half a million dollars, and Arkansas likewise. Oklahoma spent only \$29,092. I get the above information from former reports of the Department. It has ever been the policy of this Department to discourage farmers from depending upon commercial fertilizers.

TOBACCO.

Is it a coincidence, is it the perversity of fate, or is it the result of a well worked out plan that South Carolina in 1919 produced 20,000,000 pounds more of tobacco than she produced in 1918, and yet received therefor \$800,000 less? Just at this time when it is so necessary to have convincing facts and experiences with which to appeal to our farmers in order to get them to avoid boll weevil disasters I find that one of the substitute crops from which we have a right to expect money was in a measure a disappointment in 1919.

The average price paid for tobacco last year in South Carolina markets was but 20.10 cents per pound, while for the year preceding it was 31.06. The average for 10 years was 15.18 cents, and the price during that time had gone as low as 7.28, 8.52 and 9.83. I submit that the farmers of South Carolina did not get enough for their tobacco last year, and that they must take steps to protect themselves this year—for they must plant tobacco. There is more reason for it than ever, the world is calling for tobacco and the South must not be satisfied with a "good" price, but must a fair value.

The 1917 crop brought an average of 24.09 cents, which was in excess of the 1919 crop. The unconvincing plea of the tobacco buyers was that there was no demand this year for the cheaper grades, and that is where the loss was felt. I heard of some tobacco selling for as high as 85 cents and some other for as high as 75 in quantity, but it was the cheaper grades that caught the descending prices. It appears to me in common sense that there should be a demand for the cheaper grade. Since the European embargo has been lifted, the cheaper grades, it would appear, should have a greater demand than they did the year before. I am willing to admit that the sand lugs and other cheap grades brought an unusually good price in 1918, but that is no reason why we should be satisfied with the prices of 1919. I am bringing this matter to the attention of the General Assembly with the hope that some methods can be taken to encourage farmers to make better tobacco and greater yields, some system of prizes that will encourage them.

I am appending hereto the following newspaper article telling of my interest in the formation of the tobacco growers of the State into an association of self-protection, just as the cotton



(NO. 3.) NO TRONA POTASH WAS USED ON THIS TOBACCO WHICH IS IN FIELD
ADJOINING NO. 2.

farmers have had to organize and as the peanut growers will have to do to keep themselves out of the hands of speculators, and I further suggest that an organization confined to the planters of any one State would not have sufficient force and effect to protect the market:

(Article Published in the Daily Newspapers, July 20, 1919.)

TOBACCO GROWERS ORGANIZE.

"Commissioner Harris is very much interested in the efforts of the tobacco growers to perfect an organization somewhat along the lines of the American Cotton Association. Mr. Harris was invited to attend and to preside over the convention held in Florence recently and he was unable to go as he was in Atlanta assisting to get the American Cotton Association going in South Carolina, but he sent his earnest wishes for success and was personally represented in the meeting.

"There were 17 counties represented, and something over 100 delegates at the Florence meeting, and Mr. Harris thinks that a splendid organization was set up. The officers placed at the head of the campaign are active and intelligent men. For twenty-five years Mr. Harris has been working to get the farmers to co-operate, particularly with reference to the planting and selling of cotton, and he thinks that tobacco is now important enough in the value of the annual crop in this State for the producers to have a self-protective organization. He urges the tobacco growers not to be too easily mollified with an increase in prices on the higher grades, but to insist upon fair prices for the lower grades as well. It is the general average price that will make the crop worth while—or will cause it to become an actual expense to the producer.

"The officers selected at the meeting in Florence are:

"President—W. H. Keith, Timmonsville; Vice-Presidents—D. D. Rhem of Rhems, N. A. McMillan of Mullins, and Ashton H. Williams of Lake City; Secretary and Treasurer—Mason C. Brunson of Florence.

"Colonel Keith is an active young farmer and business man of Timmonsville and one of the leading citizens of the Pee Dee. Mason C. Brunson is editor and publisher of the Florence Daily Times.

"The above named officers with the following, one from each county, compose the executive committee—Dr. J. H. David of

Dillon; T. L. Smith of Marion; J. M. Meares of Horry; J. Armstrong Howard, Darlington; R. E. Currin, Florence; S. B. Poston, Williamsburg; W. H. Andrews, Georgetown; C. S. McFadden, Clarendon; E. W. Dabbs, Sumter; Russell Williams, Berkeley; R. M. Jenkins, Lee; D. P. Douglass, Chesterfield; L. A. Walker, Dorchester. There is no representation from Charleston, Richland, Lexington and other counties which grow tobacco but which have no markets within those counties.

"Mr. Harris points out that while this is as strong an organization as could have been perfected for South Carolina, it is not capable of 100 per cent. of effectiveness unless it co-operates with similar organizations in other States, and he suggests that if the tobacco growers in North Carolina and other States are not now organized, the South Carolina growers should see to it that an interstate organization is perfected at once."

GOT STUCK IN JULY.

It is not a new proposition with me to urge the farmers to take some steps to protect themselves in the matter of tobacco prices. On the 12th of August I gave out an interview in which I said:

"The tobacco crop of South Carolina is not bringing as high an average price this year as it did last year, or even the year before, according to figures compiled by the South Carolina State Department of Agriculture. The figures for the month of July have been paid on South Carolina markets during the month of July was but 21 cents and a fraction, against 33.86 cents last year and 21.65 for 1917, month of July.

"The average prices for the several months last year were: July, 33.86; August, 33.37; September and October, 17.90. Taking the month of July as a precedent, therefore, the figures in hands of the department indicate that the remainder of the crop will not bring any better average prices unless some marked change comes in the market.

"It has been reported recently that on account of disturbed shipping conditions the tobacco buyers have been withdrawn from a number of markets. This is a depressing factor, and another is the fact of the continued rain. Many fields of tobacco were just ripe for cutting when the heavy rains came a fortnight ago, and the rains which are now threatening will find a lot of good tobacco in the fields. This has been far from an ideal season for gathering and curing the tobacco.

"It is a disturbing fact, as presented in the report of the State Department, that although the sales for July of this year exceeded the sales for July of 1918 by more than 11,000 pounds, the receipts therefor were less than for 1918 by \$3,000,000. In other words, the nearly 25,000,000 pounds of the July, 1919, crop would have brought \$8,250,000 instead of the \$5,250,000 actually paid.

"It will be recalled that a convention was held recently in Florence to discuss ways and means to get a remedy for the condition. While some tobacco was bringing very fancy prices there was other that was apparently unsaleable. It was argued that with the lifting of the embargo against the sale of tobacco to Germany and the other former central powers, lugs and cheaper grades of tobacco should find a ready sale in Europe, but the price had gone away off. An organization was perfected, and the tobacco farmers are trying to get better prices for their cheaper grades. The tobacco farmers may expect a rise in prices for the tail end of the season to make them forget the low prices of July when they sold a million pounds more and got three million dollars less than in July of last year."

My prediction came true. The price was better, but the harm had been done. The bulk of the crop was almost confiscated.

ORGANIZATION OR FAILURE.

When we consider that every other crop but cotton fell away in the value of the year's production, we must conclude that it was the American Cotton Association that saved South Carolina millions of dollars on that crop. If this association is allowed to languish next year, the cotton farmers of the State will surely suffer and they would be very foolish to forget in their prosperity the dangers which they so narrowly avoided.

Permit me to quote from a letter I have received from O. F. Thornton of Mullins: "I have read all your letters published in the State newspaper with keen interest. I drifted into the tobacco business in a small way some twenty-five years ago and have been interested in the cultivation and marketing ever since. I have watched the cotton market some and believe the farmers have lost far more in proportion on that crop. I am real glad that you and Mr. Wannamaker have the knowledge and the grit to take the stand you do, if the encouragement does seem little.

"I wish you could do something to stimulate an organization among the farmers to co-operate in growing and proper handling

and selling of tobacco. For they are losing this year from two to five times what the same tobacco is selling for on the Northern markets. We need some thorough, competent man at Washington to keep the farmers posted as to supply and demand."

PRICES IN OTHER STATES.

The average price for tobacco in South Carolina was 20.10 cents in 1919. This was 11 cents or nearly 35 per cent. below last year. On the increased yield in 1919, the income should have been six million greater if last year's, 1918, average of prices had been maintained.

The average price in Virginia was 47.4 cents in 1919 on production of 131 million pounds, and in North Carolina the average was 54 cents on 357 million pounds. The highest price paid in North Carolina was 86 cents in Nash County in December and the lowest was 15 cents in Robeson County in July. These figures are given to me by Commissioner G. W. Koiner of Virginia, and Commissioner W. A. Graham of North Carolina.

I do not know what is the matter but there is something wrong. I cannot believe that South Carolina tobacco is so much inferior. There must be a weakness in our marketing. Our farmers must organize before the next season, or they may again lose millions.

TOBACCO FACTORIES NEEDED.

One remedy for the low prices for tobacco may be in small local tobacco factories. I am informed that two such are to be started, one in Darlington, one in Bishopville. The local people do not propose to be stung as were the Orangeburg citizens who put up a packing plant and then had it taken by mismanagement.

I learn that the plan of organization in Darlington is to turn the tobacco factory over to an expert who will guarantee 10 per cent. on the investment the first year. He is to have an option to buy the factory at actual cost if he makes it a success. I believe this is a fair proposition.

I would like to see the Chamber of Commerce of Columbia undertake a tobacco factory on a large scale. If it will pay in Durham it will do likewise in Columbia. With a big manufacturing industry in the State, the farmers would be encouraged to plant a crop every year. Some years, for the lack of competition in the buying, the tobacco farmers of this State practically gave



(NO. 2.) NOTE THE EFFECT OF A FREE USE OF A CERTAIN AMERICAN POTASH
ON TOBACCO WHERE THE BEDS WERE "STRUCK."

their tobacco away, quit planting and lost interest. There is a place in this State for the manufacturing end of the industry.

Richland is one of the counties that will engage in tobacco planting next year. This Department has helped to promote interest in the undertaking and there may be 300 or 400 acres planted in 1920. Dr. M. M. Langford of Blythewood has made good tobacco for several years, but lacked market facilities.

"TOBACCO RELIEVES BOLL WEEVIL LOSS."

(From the Columbia State, October 26, 1919.)

Farmers, particularly of the Pee Dee section of South Carolina, have in tobacco an effective weapon with which to beat down the tide of economic losses incident to the invasion of the boll weevil.

Last year returns from the crop reached the unprecedented figures of nearly \$20,000,000. The exact figures were \$19,311,497.86. The highest previous figure was in 1917 when the returns amounted to \$11,794,431.78.

Growers last year in receiving approximately \$20,000,000 for their tobacco got nearly one-fifth the amount paid for the cotton crop.

October's figures this year are not yet available, but during the months of July, August and September of this year, growers were paid \$18,409,336.74. Complete figures will doubtless carry the returns for the 1919 crop slightly in excess of last year's. Considerable agitation is being manifested in the lower section of the State, already invaded by the boll weevil, for the cultivation of tobacco as a substitute crop. During the three months for which reports have already been received for 1919 crop, 81,128,947 have been sold. The following table gives the total volume raised and the amount received for the crop the last ten years:

Year.	Pounds Sold.	Amount. Paid.	Average Price Paid.
1910	18,802,875	\$1,604,685.44	\$8.52
1911	11,101,066	1,352,462.84	12.18
1912	24,337,912	2,653,443.68	10.90
1913	33,299,561	4,584,339.51	13.76
1914	39,478,421	3,881,233.54	9.83
1915	37,924,396	2,760,982.18	7.28
1916	20,079,903	2,813,448.87	14.11

1917	51,080,083	11,794,431.78	24.09
1918	62,173,631	19,311,497.86	31.06
1919	81,156,470	18,548,559 15	20.10

Tobacco growing has been largely confined to Darlington, Marion, Florence, Dillon, Clarendon, Sumter and Williamsburg. But with the invasion of the boll weevil imminent in a large portion of South Carolina, the tobacco growing area will likely be largely extended. The annual report of the State Department of Agriculture for 1918 gives the following synopsis of the history of tobacco growing in South Carolina:

"The department, under the law, began to keep records of the tobacco crop in 1909. That year very nearly 28,000,000 pounds of tobacco were raised, but the price was low, and it brought but little over two and a quarter million dollars. The two following years the crop decreased very considerably in both volume and in amount of money produced. Then for four years consecutively the volume of the crop steadily increased, until the maximum was reached in 1914, the year the war broke out. The preceding year a smaller crop had sold at 13.77 cents per pound, bringing to the farmers \$4,584,000, the greatest amount ever received from the tobacco crop in this State. In 1914 the price fell, and in 1915, while people still planted tobacco, and raised a big crop, the amount received from it was only \$2,765,372, the price having fallen to the lowest figure recorded since 1909, 7.02 cents per pound.

"The 1915 tobacco crop very nearly discouraged the planting in this State. The average price had dropped from about 11 cents to 7.28, and in 1916 the acreage was cut nearly half. There was a considerable increase in price in that year and there was an anomalous situation. The number of pounds sold in 1916 was 17,844,000 pounds short of the sales in 1915, and yet the gross receipts amounted to an increase of \$52,500 over 1915.

"Tobacco has been a wonderful crop for some counties in South Carolina, for it is a cash crop and is harvested between the spring grain and truck and the cotton, thus bringing money into circulation in the summer months."

SOUTH CAROLINA TOBACCO REPORT FOR MONTH OF JULY, 1919.
30 Markets, 77 Warehouses.

Markets.	Sold for Producers		Sold for Dealers		Sold for Warehousemen		Grand Total Sales	
	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.
Andrews	451,293	\$78,481 14	27,409	\$3,937 36	64,674	\$5,581 15	543,376	\$88,019 65
Aynor	550,628	96,574 79	20,086	4,080 84	36,290	4,297 31	607,004	106,902 94
Cheraw	55,154	7,493 13	.....	.....	1,872	2,931 18	57,026	7,683 81
Conway	1,453,064	315,406 47	66,211	12,897 33	127,178	21,831 30	1,580,242	337,237 77
Darlington	1,068,986	193,275 59	2,928	693 16	127,074	15,670 76	1,293,989	231,943 68
Dillon	1,558,823	169,647 86	4,580	8,994 38	59,095	11,658 90	1,564,446	113,178 12
Florence	758,542	169,647 80	4,580	8,994 38	59,095	11,658 90	1,564,446	113,178 12
Georgetown	142,018	18,739 17	26,692	4,184 94	7,812	12,655 07	155,520	18,879 34
Greenville	582,389	59,059 71	65,911	12,062 47	114,386	12,425 70	724,694	80,989 72
Hartsville	544,297	98,651 24	122,868	19,360 12	113,682	17,459 06	724,694	80,989 72
Hemlockway	1,096,084	238,588 68	9,028	1,733 67	33,673	9,266 71	1,138,785	249,588 49
Johnsonton	311,867	110,843 06	44,780	11,340 57	292,325	62,267 33	748,972	121,549 36
Kingsree	2,065,654	413,890 34	104,884	51,771 91	240,442	41,882 39	2,411,980	466,188 29
Lake City	2,897,593	568,946 92	15,032	3,041 23	18,480	1,818 15	2,925,105	570,035
Lake View	694,523	145,043 47	34,996	6,425 27	77,214	9,368 94	846,733	133,802 85
Lamar	347,594	71,064 57	65,474	9,573 52	164,015	29,707 48	517,083	86,866 76
Latta	346,475	62,813 33	11,074	2,054 68	41,008	6,188 45	408,560	75,069 14
Lynchburg	1,060,319	190,099 11	90,027	20,846 17	273,069	33,080 68	1,423,405	230,651 76
Nanning	304,640	45,702 72	48,896	9,788 54	164,015	29,707 48	517,083	86,866 76
Norfolk	1,430,630	282,636 63	48,896	9,788 54	273,069	33,080 68	1,752,615	295,464 86
Norton	969,827	148,363 33	969	192 83	7,177	933 01	977,965	149,496 17
Moncks Corner	76,648	10,753 71	31,962	8,936 59	96,884	19,578 69	174,494	24,311 01
Mullins	67,029	11,234 06	624	162 24	15,627	2,234 66	78,680	11,879 55
Nichols	2,123,233	542,727 06	242,228	46,551 74	92,140	15,653 27	2,457,601	504,511 03
Olanta	1,218,306	356,318 57	44,643	13,130 06	69,724	13,255 02	1,332,673	382,698 96
Pamlico	803,214	194,900 72	22,992	3,435 50	94,551	16,765 91	920,757	215,102 13
Sumter	751,117	180,766 59	23,708	4,020 59	54,060	8,285 25	828,885	193,432 43
Sumterville	601,920	120,440 46	3,058	735 45	9,041	1,368 81	613,919	105,618
Timmons	94,517	16,118 89	141,682	37,021 17	172,406	27,677 59	312,605	54,819 36
Timmonsville	1,742,878	447,967 95	141,682	37,021 17	172,406	27,677 59	2,056,966	513,251 89
Total	24,959,252	\$6,256,115 06	1,387,560	\$206,903 64	2,670,473	\$433,004 35	29,017,315	\$6,986,023 04

COMPARISON FOR MONTH OF JULY, 1910-11-12-13-14-15-16-17-18-19.

Year.	Pounds Sold.	Amount Paid.	Average Price Paid.
1910.....	2,008,385	\$105,982 30	.0512
1911.....	944,301	62,195 38	.065
1912.....	5,064,085	381,604 96	.0753
1913.....	8,731,789	1,094,415 84	.1253
1914.....	3,862,346	387,762 31	.1004
1915.....	3,878,716	145,409 23	.0431
1916.....	657,816	51,833 74	.0788
1917.....	18,964,777	4,151,674 84	.2165
1918.....	23,876,785	8,125,202 04	.3386
1919.....	24,959,252	5,256,115 06	.2106

SOUTH CAROLINA TOBACCO REPORT, 1919.
August, 1919—By Markets—90 Markets, 77 Warehouses.

Markets.	Sold for Producers		Sold for Dealers		Resold by Warehousemen.		Grand Total Sales.	
	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.
Andrews	1,288,240	\$227,015.94	19,872	\$3,314.08	54,274	\$7,087.14	1,357,386	\$237,417.11
Astor	1,197,630	294,234.84	30,885	7,932.94	307,883	25,321.26	1,436,988	\$294,579.04
Cheraw	99,095	11,704.82	5,434	1,014.78	17,984	1,394.45	1,122,453	14,113.85
Conway	1,824,468	439,137.96	8,630	2,283.22	165,924	26,349.87	1,999,022	467,740.62
Darlington	3,104,468	808,458.73	223,187	50,086.67	309,630	41,191.55	3,438,980	\$89,876.95
Dillon	1,692,116	150,977.30	109,798	29,730.09	82,745	19,848.89	708,000	170,136.00
Florence	1,490,188	346,369.88	109,798	29,730.09	82,745	19,848.89	708,000	170,136.00
Georgetown	286,832	67,083.55	1,864	228.02	48,822	4,119.52	1,721,306	407,607.11
Greenville	431,073	64,082.21	84,946	11,065.70	771,915	25,504.49	1,287,934	101,712.40
Harsville	1,634,289	420,276.73	123,268	29,069.48	112,063	22,479.26	1,869,950	471,842.57
Hemingway	1,854,765	359,846.03	298,702	58,274.08	244,646	37,175.44	2,398,113	\$50,256.56
Johns River	1,344,565	274,867.15	7,507	1,784.52	102,117	20,096.07	1,454,179	236,717.74
Kingstree	3,063,215	784,606.07	56,222	17,591.85	291,044	88,164.84	3,440,481	\$80,362.77
Lake City	4,706,001	1,357,985.64	334,648	99,532.75	400,086	97,968.08	5,500,744	1,632,584.42
Lake View	1,276,894	236,756.67	55,449	16,836.95	135,999	14,967.67	1,468,342	281,232.17
Lamar	860,200	229,380.12	73,668	16,138.29	173,066	35,718.76	1,126,924	190,797.83
Latta	1,902,806	176,632.48	80,765	16,422.12	41,654	6,723.23	1,025,125	158,066.14
Lotts	1,372,689	382,668.98	967,676	87,914.43	279,123	68,512.78	1,919,488	\$34,096.14
Lynchburg	673,677	145,104.83	25,612	6,463.74	83,147	16,331.09	782,436	166,899.73
Manning	2,221,760	456,337.79	72,868	19,048.10	294,949	58,761.55	2,589,077	\$34,137.44
Marion	1,641,758	361,153.89	123,011	33,791.89	238,186	50,894.51	2,057,955	445,359.29
McBee	212,440	44,251.25	7,071	1,676.83	28,129	3,094.19	247,940	49,021.27
Moncks Corner	77,965	16,840.44	1,734	436.94	25,765	2,576.50	106,464	19,853.88
Mullins	4,087,279	1,074,352.66	387,355	87,844.98	278,344	61,072.96	4,672,978	1,223,770.60
Nichols	1,771,730	622,509.87	42,510	11,965.52	107,148	22,969.46	1,921,388	\$57,404.86
Olanta	806,445	200,423.63	29,142	6,308.53	134,043	23,150.11	972,630	238,882.27
Pamlico	974,229	249,882.70	28,090	7,689.49	157,939	25,110.16	1,160,258	238,682.35
Sumter	1,068,896	216,908.58	10,918	2,391.37	202,362	51,432.94	1,311,666	270,782.89
Summersville	133,207	22,628.93	2,666	258.48	10,440	1,472.04	146,313	24,359.45
Timmonsville	3,213,653	971,096.71	500,888	114,137.06	466,517	78,723.49	4,181,358	1,163,932.26
Total	44,846,927	\$10,994,116.50	2,983,006	\$757,664.33	5,531,773	\$943,307.00	52,361,306	\$12,675,117.83

Comparison shows an increase of August, 1919, over the same months of 1918 of:
 18,231,468 pounds and \$2,146,002.50, and an average decrease in rate of .0643 per pound.

COMPARISON FOR MONTH OF AUGUST, 1910-11-12-13-14-15-16-17-18-19.
Sold for Producers.

Year.	Pounds Sold.	Amount Paid.	Average Price Paid.
1910.....	2,068,385	\$105,982 30	\$5.12
1911.....	944,301	82,195 38	6.50
1912.....	5,064,085	381,604 96	7.53
1913.....	8,731,789	1,094,415 34	12.53
1914.....	3,863,346	387,763 31	10.04
1915.....	3,373,716	145,499 23	4.31
1916.....	657,516	51,833 74	7.88
1917.....	18,954,777	4,151,674 84	21.65
1918.....	34,629,830	10,528,515 24	30.40
1919.....	44,345,927	10,944,116 50	24.68

SOUTH CAROLINA TOBACCO REPORT, 1919.
September, 1919—By Markets—50 Markets, 48 Warehouses.

Markets.	Sold for Producers		Sold for Dealers		Resold by Warehousemen.		Grand Total Sales	
	Pounds	Amount	Pounds	Amount	Pounds	Amount	Pounds	Amount
	Sold	Paid.	Sold	Paid.	Sold	Paid.	Sold	Paid.
Andrews	82,014	\$12,408 72	13,915	\$1,266 26	102,757	\$6,559 15	196,686	\$19,234 13
Aynor .....	.....	.....	.....	.....	61,420	2,315 40	61,420	2,315 40
Conway	688,080	98,677 91	.....	.....	105,371	6,992 43	743,451	100,670 34
Darlington	2,277,533	492,110 80	163,296	25,057 06	276,068	42,393 88	2,716,827	490,062 46
Florence	355,784	55,495 49	7,494	1,529 62	49,188	12,343 36	412,466	69,368 37
Hartsville	444,975	70,068 83	14,565	2,569 63	186,463	13,436 27	625,023	92,063 73
Hemlingway	126,521	20,087 11	3,308	631 92	70,754	5,459 11	200,583	29,028 14
Johnsontown	390,757	61,426 16	230	25 76	117,401	14,116 70	487,398	75,568 02
Kingsree	863,812	175,716 39	22,228	6,710 06	296,557	22,210 64	1,175,607	204,637 09
Lake City	1,623,736	345,117 91	48,184	11,137 44	331,966	43,787 67	2,005,896	400,043 02
Lamar	323,964	58,896 65	.....	.....	125,640	21,421 02	449,604	80,432 85
Latta	50,817	8,796 03	8,492	1,472 51	42,899	2,621 13	57,208	7,889 67
Loris	306,528	70,143 04	44,908	10,871 36	44,702	10,578 26	397,838	91,092 06
Manning	186,433	24,240 27	4,496	464 24	39,290	5,154 83	230,214	29,857 34
Marion	296,971	46,738 34	39,552	10,436 50	38,206	6,351 49	376,729	63,526 33
McBee .....	.....	.....	.....	.....	21,562	4,769 51	21,562	4,769 51
Mullins	1,776,485	292,138 67	195,290	31,102 11	324,679	57,654 31	2,296,454	390,890 09
Nichols	170,913	32,928 99	14,112	6,027 84	167,819	11,705 08	362,849	50,662 86
Pamplico	245,536	41,809 09	16,253	2,043 40	73,368	4,971 01	335,155	48,823 45
Timmonsville	1,734,919	356,359 75	165,798	32,313 84	288,101	40,681 20	2,188,816	428,754 29
Total	11,823,768	\$2,189,106 19	762,219	\$143,191 76	2,750,149	\$334,424 00	15,336,136	\$2,666,720 95

COMPARISON FOR MONTH OF SEPTEMBER FOR 1910-11-12-13-14-15-16-17-18-19.
Sold for Producers From First Hand.

Year.	Pounds Sold	Amount Paid.	Average Price Paid.
1910.....	7,419,548	\$935,116 02	10.87
1911.....	4,676,793	693,185 44	19.61
1912.....	2,064,697	364,843 48	11.40
1913.....	5,259,583	702,086 18	13.23
1914.....	19,652,863	1,722,189 18	8.61
1915.....	12,914,004	915,383 96	7.09
1916.....	438,017	62,070 45	14.18
1917.....	732,143	168,183 69	21.23
1918.....	2,667,026	607,720 53	17.90
1919.....	11,823,768	2,189,106 19	18.51

SOUTH CAROLINA TOBACCO REPORT, 1919.
October, 1919—By Markets—5 Markets, 6 Warehouse—Average Rate, 16.17.

Markets.	Sold for Producers		Sold for Dealers		Resold by Warehousemen.		Grand Total Sales	
	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.
Florence	488	\$79.49	.....	.....	27,225	\$2,559.15	27,693	\$2,638.64
Lake City	8,498	1,519.84	.....	.....	19,281	3,277.77	27,767	4,797.61
Loris .....	.....	.....	.....	.....	85,745	10,540.00	86,745	10,540.00
Lynchburg .....	.....	.....	.....	.....	22,873	1,715.40	23,873	1,715.40
Mullins	15,607	2,327.98	9,782	\$1,170.48	88,387	8,981.66	110,758	7,489.97
Total.....	27,583	\$3,927.26	9,782	\$1,170.48	237,491	\$27,023.88	274,796	\$32,121.62

(October sales in former years were combined with September reports; q. v. for comparison.)

TOTAL TOBACCO SALES FOR SEASON OF 1919.

	Sold for Producers		Sold for Dealers		Sold for Warehousemen		Grand Total Sales		Average Price Paid
	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	Pounds Sold	Amount Paid.	
July	24,959,252	\$5,255,115.06	387,590	\$296,908.44	4,433,604.35	\$2,570,473	29,017,319	\$6,986,023.06	.2106
August	44,345,927	10,994,116.50	2,983,003	737,694.33	943,307.00	5,631,773	62,861,806	12,675,117.83	.2468
September	11,823,768	2,190,106.19	763,219	143,191.76	384,434.00	2,750,149	15,386,136	2,666,720.95	.1851
October	27,523	3,927.26	9,782	1,170.48	27,023.88	237,491	274,796	82,121.62	.1617
Total.....	81,156,470	\$18,545,556.15	4,143,197	\$1,178,900.01	11,069,886	\$1,738,359.23	97,489,567	\$22,350,983.46	.2010

TOTAL SALES BY PRODUCERS, 1910 TO 1919, INCLUSIVE.

Year.	Pounds Sold.	Amount Paid.	Average Price Paid.
1910.....	18,892,875	\$1,604,685.44	8.52
1911.....	11,101,046	1,353,469.84	12.18
1912.....	24,537,912	2,653,445.68	10.80
1913.....	83,259,561	4,384,339.51	13.76
1914.....	89,475,421	3,851,238.54	9.88
1915.....	37,924,886	2,760,932.58	7.28
1916.....	20,079,503	2,513,445.87	14.11
1917.....	51,060,963	11,794,431.78	24.09
1918.....	62,173,631	19,311,497.66	31.06
1919.....	81,156,470	18,645,559.15	20.10
Total.....	379,434,318	\$99,306,084.85	15.18

TOBACCO WAREHOUSES, 1919.

Location.	Name of Warehouse.	Name of Manager.
Andrews	Farmers Warehouse	J. H. White and N. W. Cook.
Andrews	The Old Tobacco Warehouse.....	Irby & Thompson.
Andrews	Planters Warehouse	Reaves & Dunn.
Aynor	Brick Warehouse	Holliday & LaRoque.
Aynor	McGee Warehouse	McGee & Lewis.
Aynor	Farmers Tobacco Warehouse.....	Shelley & Pell.
Conway	Planters Tobacco Warehouse.....	Freeman, Lacey, Garrett.
Conway	Horry Tobacco Warehouse.....	W. L. Mishoe.
Conway	Farmers Tobacco Warehouse.....	Fullerton & Johnson.
Conway	Peoples Tobacco Warehouse.....	A. C. Thompson.
Cheraw	Farmers Tobacco Warehouse.....	Waddill & Glenn.
Cheraw	Chesterfield Tobacco Warehouse.....	Bullock & Horton.
Darlington	Brick Warehouse	Moxing & Shelburna.
Darlington	Dargans Warehouse	Snyder & Stem.
Darlington	Carolina Warehouse	Milling & Williams.
Darlington	Price's Warehouse	R. B. Price & Co.
Dillon	Farmers Tobacco Warehouse.....	A. V. Bethes, President.
Florence	Dixie Tobacco Warehouse.....	J. W. Berger.
Florence	Cannon's Tobacco Warehouse.....	H. Cannon.
Georgetown	Georgetown Tobacco Warehouse.....	Evans Rees.
Greeleyville	Greeleyville Tobacco Warehouse.....	Rogers & Strickland.
Greeleyville	Farmers Warehouse.....	L. R. Jackson.
Hartsville	Farmers Warehouse.....	Davis & Turner.
Hartsville	Tedders Warehouse	Tedder & Gravely.
Hartsville	Star Warehouse	Lovell, Johnson, Mitchell.
Hemingway	Big Four Warehouse.....	Cozart & Baker.
Hemingway	Farmers Tobacco Warehouse.....	W. G. Pruitt & Co.
Hemingway .....	.....	Mangum Bros.
Johnsonville	Center Brick Warehouse	J. R. Hutchings & Son.
Johnsonville	Farmers Warehouse	J. W. Barnes.
Johnsonville	Star Warehouse	Johnson & Mills.
Kingstree	Nelson Tobacco Warehouse.....	Thomason, Owens, Noell.
Kingstree	Gorrell Tobacco Warehouse	McIntosh, Hester & Co.
Kingstree .....	.....	M. R. Glass.
Kingstree .....	.....	Bass, Murray & Wilkins.
Kingstree .....	.....	Johnson, NeSmith Co.
Lake City.....	Brick Tobacco Warehouse.....	Holloway & Bowen.
Lake City.....	Star Warehouse	Hodges & Singleterry.
Lake City.....	Gravely's Warehouse	M. K. Graveley & Sons.
Lake View	New Farmers Tobacco Warehouse.....	R. T. Renfrow.
Lake View	Planters Tobacco Warehouse.....	Oscar W. Leath.
Lake View	Liberty Tobacco Warehouse.....	H. L. Turner.
Lamar	Lamar Tobacco Warehouse.....	Umstead, Cross & Switt.
Latta	Farmers Tobacco Warehouse.....	J. F. Bethes.
Latta	Planters Tobacco Warehouse.....	C. O. Watts.
Loris	Casey Tobacco Warehouse.....	P. R. Casey & Son.
Loris	Standard Tobacco Warehouse.....	Wright, Lee, Davenport.
Loris	Farmers Tobacco & Storage Warehouse.....	D. K. McDuffie.
Loris	Farmers Tobacco Warehouse.....	Ross & Sanderson.
Lynchburg	Farmers Warehouse	Leath & Bowland.
Manning	Central Tobacco Warehouse.....	Sears & Hughes.
Manning	Clark's Tobacco Warehouse.....	R. D. Cothran.
Manning	Manning Tobacco Warehouse.....	R. D. Clark.
Manning	New Warehouse.....	E. W. Harris & Son.
Marion	Peoples Tobacco Warehouse.....	Terrell & Satterfield.
Marion	Phoenix Tobacco Warehouse.....	R. M. Winn & Co.
Marion	Central Tobacco Warehouse.....	C. M. Jones & Co.
Mullins	Yarboro's Tobacco Warehouse.....	L. C. Moore.
Mullins	Farmers Warehouse	W. J. Yarboro & Co.
Mullins	Central Tobacco Warehouse.....	Neal & Dixon Bros.
Mullins	Brick Tobacco Warehouse.....	W. P. Clark.
Moncks Corner.....	Berkeley County Tobacco Warehouse.....	A. B. Edwards.
McBee	McBee Warehouse	J. A. Petree.
Nichols	McGee's Tobacco Warehouse.....	Nichols, McGehu, Hutcherson.
Nichols	Planters Tobacco Warehouse.....	Turner Bros.
Olanta	Gorman's Tobacco Warehouse.....	W. T. Lipscomb & Co.
Olanta	Olanta Tobacco Warehouse.....	N. T. Tucker and J. W. Carter.
Olanta	Farmers Tobacco Warehouse.....	S. S. Meadows & Co.
Pamplico	Farmers Tobacco Warehouse.....	R. W. Hutcherson.
Pamplico .....	.....	Bowling, Lawrence & Bane.
Sumter	Sumter Tobacco Warehouse.....	Moore Bros.
Sumter	Banna Tobacco Warehouse.....	Knott & Newton.
Summerville	Summerville Tobacco Warehouse.....	Moss & Adams.
Timmons ville	Palmetto Tobacco Warehouse.....	Bowling, Lawrence & Bain.
Timmons ville	Farmers Warehouse Association.....	Lea, McElween & Co.
Timmons ville	Liberty Warehouse Company.....	King, Pervis & Severance.

LIVE STOCK.

TEXAS FEVER TICK GONE.

The quarantine on the Texas fever cattle tick was raised in December, 1918. At that time it was very carefully explained that this did not mean that the tick had been eradicated entirely, but practically so.

The raising of the quarantine was a great favorable advertisement for South Carolina. The value of our cattle increased at once, because they could be sold beyond the borders of the State. In fact the very act of freeing cattle from the tick makes them more valuable simply because their blood goes to meat and bone instead of being a diet for the ticks. This campaign has cost some money, but it has been an investment such as the State will be greatly benefited by.

At first there was violent opposition in some parts of the State. There was, indeed, open defiance of authority. I am glad to say that I learn from Dr. W. K. Lewis, the expert in charge of this work, that all organized opposition has disappeared. There are some grumblers, but none are actually rebellious. I consider that by product of the campaign to be one of its most valuable effects. I mean upon the minds and temper and attitude of our people. They have learned to have confidence in the promises of agencies properly interested in them and they are in a receptive mood for other regulatory work.

There were 1,600 infested cattle in South Carolina in 1918, even though the quarantine had been raised. This was due to the fact that when cattle are being dipped it is difficult to get all of them out of the swamps, for there are several ranchers in this State who do not know how many cattle they have. Most of the infested cattle were on the swamp islands in Beaufort County, but there were enough to show that the work of eradication, by dipping and otherwise, must be kept up a little longer, though upon a scale suited to the extent.

It was a bad year for eradication work. The principal season for dipping cattle is from May to August, and it rained almost incessantly in some of the infested area during those months. More cattle were dipped in some counties this year than were dipped in the same counties in 1918.

Dr. Lewis uses in the dipping fluid an element that prevents cattle from becoming infested again until the odor of the fluid dies out; and that covers a period of days sufficient for the pests to starve before they can find cattle upon which they may leech themselves.

I understand that Dr. Lewis is conducting cattle tuberculosis eradication, making tests of herds upon request and testing feeders. This is a great and necessary work. The Department was largely instrumental in getting the tick eradication work started and we are proud to witness the results.

Dr. Lewis has also placed under his direction the dissemination of hog cholera serum in South Carolina. This is a joint function of State and Federal governments and Clemson College. Double the amount of serum was used in 1919 as in 1918, which was a great increase over preceding years. This does not indicate so much that cholera was prevalent in some sections as that the distribution point is more accessible and that the people realize the advantage of having the work done out of Columbia.

I wish to urge farmers to dispose of carcasses of hogs dying with cholera. One of the greatest enemies to our farmers is the buzzard which scatters the cholera germs. A carcass should be burned without a moment's delay.

There is complaint made to this Department of a rendering plant in Richland County which is said to haul carcasses for miles and to boil them and then feed the residue to several hundred hogs which are later sold in Northern markets. This Department has no authority to investigate such matters, but I respectfully bring it to the attention of the General Assembly for any investigation it may see fit to make.

SALES OF HOGS.

Clarendon County has attracted attention on account of the high prices paid for tobacco grown therein. A few years ago A. J. Tindal of that county won the world's championship prize on the best ear of corn. In 1918 and 1919 tobacco brought some farmers in that county as much as \$700 an acre.

As an evidence of what can be done in Clarendon in the hog raising line, I quote from a local paper:

"Messrs. A. C. and J. I. Bradham started a Duroc farm in February of this year with nine brood sows on sixteen and three-fourths acres of land. Out of the first litter from the nine sows

they raised sixty-four pigs. To date they have sold some fifty shoats, thirty of which went to farmers in this county. Seven of the brood sows have farrowed a second litter, which netted the owners seventy pigs. The highest price yet received was \$170 for a boar from the spring litter. They will keep all of the gilts from the spring litter for brood sows and plan to have twenty brood sows on the place all the time.

"They say when they have sold this last litter and taken out all the expenses for feed, raising pasture crops, etc., they will have cleared \$2,000 on their nine sows and sixteen and three-fourths acres of land."

Thirty-nine head of Duroc-Jersey sows were sold December 30th at Mr. Horatio Bigelow's Springfields Farms. A total of \$7,500 was paid for the swine. The top sow, sired by the famous Sprague boar, Favorite Orion King, of Lima, was bought by George Palmer, Cartersville, for \$630. The second best price was \$400, paid by John A. Hertz, for a sow sired by Orion Cherry King, Jr., a \$16,500 boar. This sow was farrowed and raised at Springfields. Mr. Hertz was the chief buyer at the sale.

A SUCCESSFUL STOCK FARM.

One of the splendid enterprises of South Carolina is the Carolina Stock Farms in Clarendon County. This is a project for the reclamation of waste land—land that is fertile but had not been under cultivation. There are hundreds of thousands of acres of similar land in the State. Although all may not have the fertility, yet nearly all are available. The directing spirit is A. Courtney Campbell of Foreston, and it may be said that the experimental stage has been passed.

As an essential first step toward the development, it was necessary to organize a drainage district. This was done, and the actual drainage work is more than half completed. More than 10,000 acres of land will be drained by the project.

The Carolina Stock Farm owns a tract of 4,300 acres, which was nothing but raw land when the improvement project was launched eighteen months ago. At present, a large herd of Hereford cattle, of the range bred type, and a smaller herd of goats, of the mixed strain, are maintained. The highest number of cattle that the farms has had was about 600. Two silos, each of 270 tons capacity, are in use, to supply ensilage for the cattle during the months not affording grazing. Two big feeding sheds,

each capable of housing 300 animals, are parts of the farm's equipment.

PACKING PLANT FAILED.

The Department learned with regret of the failure of the Meat Packing Plant at Orangeburg, which no doubt suffered from the pressure of the packing house trust. However, it is a pleasure to learn that operations will be resumed and that the plant, which will be taken over by one of the great packing firms of the country, will furnish a market for the hogs of Orangeburg and neighboring counties. The capacity of the plant is 400 hogs a day.

RECLAIMING THE WASTES OF YEMASSEE.

Another successful stock ranch is that of Kress, the owner of a chain of "5 and 10 cent" stores. His place is at Yemassee, in Beaufort County. The manager, Mr. Clancy, has brought out the place in a remarkable manner. There are over 50 miles of tile drainage, and the once impenetrable swamps are now wonderful pasture lands. I think Mr. Kress made the mistake of putting too many cattle on the place before he had got the grazing ready for them, but I understand that he now has about a thousand head of beautiful beef cattle, most of them native born, and that the ranch is prosperous. This is a great object lesson and South Carolina welcomes settlers of the kind that Mr. Kress is.

LIVE STOCK ASSOCIATION.

The Commissioner regrets that there is not greater interest in the South Carolina Live Stock Association. In the winter of 1919 an earnest effort was made by the Secretary, T. O. Lawton of Garnett, to engage the interest of the boys in the corn and pig clubs. But even this did not get many new members.

South Carolina may never become a State of great cattle ranches, but it should be one of the great cattle States. Practically free from the Texas fever tick, this State has a climate that means twelve months pasturage in some counties. The Live Stock Association should have 5,000 members, perhaps this may be attained if a publicity campaign can be put on.

There is more than sentiment in the necessity for such an organization. Here is the startling statement made by the Secretary, Mr. Lawton:

"Since the Texas fever tick quarantine has been lifted dealers in cattle from everywhere are pouring into South Carolina bringing any and every kind of cow they can pick up which the owners thereof do not want, and selling them at auction sales to the people of South Carolina. Some of these cows might be fair, but most of them are cheats and frauds. What we want is for the South Carolina Live Stock Association to have sufficient members to employ a paid man to inspect every car load of cattle shipped into South Carolina by these dealers and see that the people of South Carolina get their money's worth."

A HOG PALACE.

Over at Cartersville, Darlington County, is a great hog, a Duroc-Jersey. The owners of this great boar have refused \$10,000 for him. I am told that he is provided with a most comfortable bungalow, all his own, that he has running water, a concrete bath tub, and that a careful dietitian waits upon him. Why not? What a friend of the farmer the homely old hog has been. As a mortgage lifter he beats the mule. The hog which was once but a barn yard familiar has at last become a great artist that paints the silver lining in the clouds for the farmers who have had the prescience to realize that pure bred sires would bring wealth to the South. Scrub hogs don't inspire farmers and I am glad to see this State being so widely populated with the blue-bloods. For we must all admit, that in live stock, at least, royal blood counts. It pays.

NINE GRAND CHAMPIONSHIPS.

During the year a number of our farmers attended conferences and conventions in other sections of the country and all came back thinking that South Carolina was after all the best State in the Union—although some of the possibilities are not being lived up to.

The annual cattle fairs in Chicago attracted several South Carolinians; first the beef cattle show in November and then the dairy cattle show in December. These are wonderful occasions, but the most enthralling thing about the 1919 shows is the fact that the South won so many first premiums. In 1913 when the Southern Hereford bull, Point Comfort XIV, won the grand championship at the international show, many exhibitors, even from the South, considered it a fluke, but the 1919 show proved that the South is coming to the front very rapidly, as well she

might. For the South is nature's cattle ranch. There are native grasses here which do now or can be made to provide open ranges during twelve months out of the year in that portion of the State east of Columbia; and even in the foothills of the Blue Ridge there is ten months open pasturage. Alfalfa, vetch, clovers, leguminous crops, soy beans, peas, and peanuts—all kinds of forage crops can be grown here in greatest abundance.

E. E. Mack & Son of Thomasville, Ga., won the grand championship at Chicago with a Southern bred Hereford Bull. L. L. Little of Fayetteville, Tenn., won the short horn grand championship with his bull Les-e-deza. The Aberdeen—Angus grand championship bull was Idolmers, Southern bred, owned by J. I. Huggins of Dandridge, Tenn. There were 2,005 individual entries from two score States and yet the South captured the three most coveted prizes.

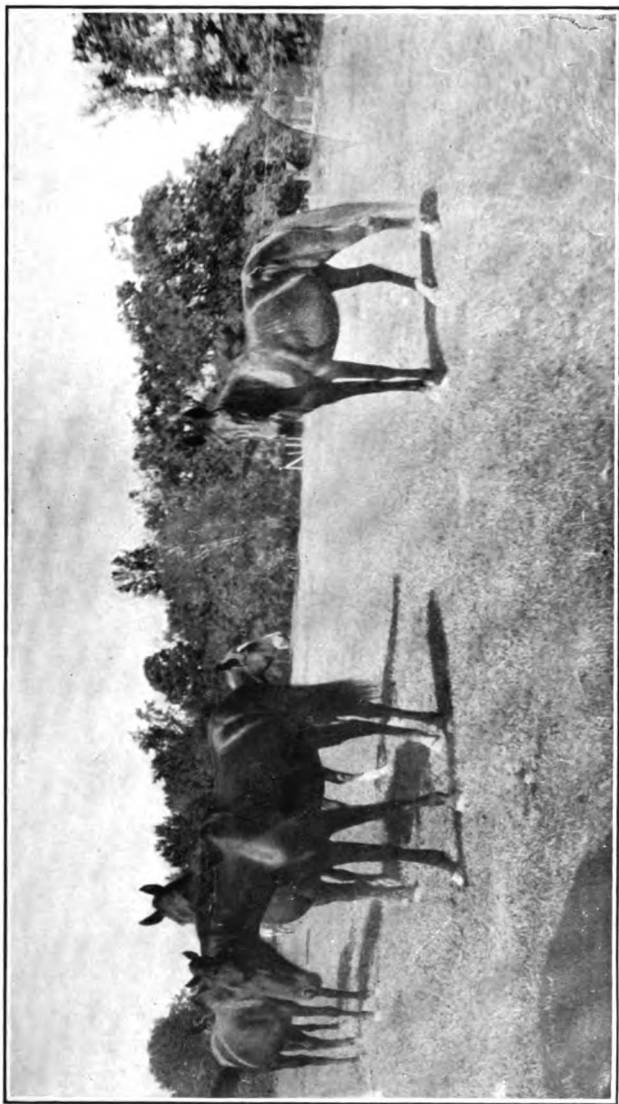
And where did the Poland-China grand championship go but to a sow of the Herlong farmers of Micanopy, Fla.? From the foregoing it appears that the Southern visitors were made to feel very proud of their section of the country.

As a matter of fact South Carolina is entitled to have the best stock in the country. Long before the War of Secession there was elegant stock in this State brought direct to Charleston from England. The time is at hand when South Carolina will return to her place at the very top of the percentage of splendid farm animals.

We can take a liberal share of prizes in competition with the world when we learn not to be afraid to trust the products of our soil and our climate. Other grand championships were taken by Southern owned animals, though not bred here. These include Shorthorn cow, Duroc-Jersey boar, Hampshire ram and ewe. All of which shows that the South is awake.

RAISE YOUR MULES AT HOME.

I think well of the "better sires" slogan. We must have better stock. The scrub requires as much to feed it and the high grade animal gives more milk, puts on more weight, or is a better work animal, as the case may be. The farmer makes more money and the world gets more out of better sires. I feel that this is one point upon which I am competent to talk, because I have spent 37 years studying the habits, lives and natures of live stock. In the month of October I gave out an interview on raising colts. It attracted much attention and I present it herewith:



SOUTH CAROLINA RAISED COLTS ARE AS GOOD AS THE BEST.

Columbia, Nov. 10, Special.—“It is cheaper to raise horses and mules in South Carolina than it is to buy them—cheaper by one-half,” says Commissioner Harris, who has had enough experience to know what he is talking about. “There is no State in the U. S. that can raise a horse or mule or pound of pork or dairy products or pound of mutton any cheaper than can be done in the State of South Carolina. We now know that the boll weevil will invade South Carolina, for he’s here. And it now behooves the people of this State to diversify their farming so as to raise everything that the farmer will need for food for himself and family and for the livestock on his farm. What little cotton he grows will be his own and he will be able then to name his own price. In fact diversified agriculture is the only system by which a farm can be made a business enterprise. Now, let’s see if the above statement as to the cost of raising colts is a fact.

“A farmer needs only one and one-fourth acres to pasture and raise all the feed a colt will need from the time it is six months until it is three years old, and ready for the collar. How would I plant this land to do this? I will answer from experience. Sow one-fourth acre in Bermuda grass and the acre lot in oats, wheat and vetch. Sow by October 10th and cut about 15th of May when the grain gets in the ‘dough’ state. Immediately break this stubble and plant in corn of some early variety.

“I would build a stable in one corner of the grass lot and make a loft to hold two and one-half tons of hay, to have the feed handy. I would repeat this for three years, and by putting the manure back on the soil I would reduce the fertilizer and improve the lot every year. At the end of three years when the mule is sold I would have at least \$35 worth of feed on hand.

“Instead of a farmer buying a mule every year or two, he should raise at least one or two every year. The mares would perform about as much farm work as mules up to the very foaling time, and the farmer would be saved the expense of buying fresh stock from time to time.

“Since I have been farming, 39 years, I have never bought a horse, and I don’t use mules. I bought a filly colt for \$30 before I was married and I have raised every horse that I have used on my farm ever since. There is no good in a mule when he lies down and dies, but a mare will leave the farm well stocked when she goes, and will have done as much work as a mule.

"The amount of money spent out of South Carolina for mules and horses is a shame, when we consider that it could all be saved, and that we would by raising more live stock grow more grain at home instead of buying it also at fancy prices. Recently I had some of the inspectors of this department to take a census of mules and horses bought in some of the counties. Here are some of the startling figures:

"In Lee County, 1,300 head bought, average price \$225, total \$295,000; Darlington, 1,200 head, average price \$225, total \$250,000; in Sumter County, \$650,000. The inspectors visited the dealers and got this information. These horses and mules could have been raised in those counties from foaling to three years old under the system I have outlined, at a cost of \$100 per head, and by that method the land all the time would be improved.

"I would be willing to make good what any man would lose who would follow out honestly and sincerely the method I have outlined. And he will get a better mule or horse than he could buy in Missouri or West Tennessee or Kentucky. To raise good stock mules, it is necessary to have a mare to weigh not less than 1,250 to 1,300 pounds, and the best for breeding work stock are grade Percherons, one-half to three-fourths full blooded. Of course judgment must be used in buying mares of good confirmations, good heads, feet and legs; and bred to a good jack. The offspring will give entire satisfaction if the colt is given a plenty to eat. The trouble about raising colts in the South has been that they are put in a dry lot which is called a pasture and the colt has to turn the rocks over to get a little grass. A colt will not be a success if you don't give him enough to eat. By the system I have outlined in the outset, he will have all the feed that he can eat.

"If those counties that I have referred to had raised that stock in their own barn lots and pastures they would have saved thousands of dollars directly and many more thousands indirectly. Not in each case, but in a general way the South has been buying too much on a credit—corn, oats, hay, flour and bacon, all coming from the West to be paid for in the fall of the year. And that's the very reason why the price of cotton has always been depressed. Just think——

"If we had no supplies to pay for in the fall of the year, our cotton would be ours, not somebody's that never turned a hand to make it. Therefore, I say——

"The boll weevil is our friend. It is the only remedy that has yet been found to cure this back-number lack of system of farming, and to make our farmers run their places on a business plan."

NEED MORE DAIRIES.

Having long been engaged in the live stock industry, I cannot but be impressed with the fact that there are not enough dairies in South Carolina. The number of cattle has not increased in proportion to the number of people moving to towns and cities. It is estimated that from three to six million children in the United States are under-nourished. I am prepared to believe it, and to fear that this malnutrition is becoming evident in the South. Think of that, in the rural South. It is not pleasing to look into the future and contemplate what will be the fibre and the character of our citizenship, for if our people are not well fed they will not be capable of fullest physical and mental and, therefore, of moral development.

Milk is the greatest human food and even at 20 to 25 cents a quart is cheaper food than eggs at 35 cents, containing the same amount of food, or steak at 30 cents or Irish potatoes. The Commissioner longs to see a greater number of dairy cattle in South Carolina.

MR. COOPER WRITES OF GUERNSEYS.

"The development of Guernsey interest in South Carolina," says Robert M. Cooper, Jr., "may be said to date from 1915. Prior to this time there were Guernseys within the borders, but in comparatively few numbers, the most outstanding Guernseys together with the oldest breeders being situated in Fairfield and Chester counties.

"In 1915 Lee County, through her co-operative Dairy Association and with a view of adopting some method of agriculture to offset the ravages of the boll weevil, adopted the Guernsey as her dairy type, and immediately began purchasing Guernsey cattle throughout the country in lots of one to forty. Before the year 1916 had passed there had been brought into Lee County around 200 pure bred and grade Guernseys. Among these were included four or five of the best bulls obtainable.

"Following Lee County Marlboro, Darlington, Marion and other sections of Pee Dee were aroused and enthused over Guernseys and followed Lee County in the course that she had adopted.

"The enthusiasm that was invading the Pee Dee section of the State aroused the love of the Guernsey which had been lying dormant in the breeders of these cattle in Fairfield, Chester, York and other counties. These people, too, began to purchase Guernsey cattle in large lots.

"Since 1915 some of as important sales of Guernseys have been held in this State as have ever been held anywhere. For instance, at Wisacky, in Lee County, there were sold at public auction 40 imported Guernsey heifers, not a single one leaving the State, but all being scattered over eleven counties in South Carolina. Following this sale, Marlboro, with her progressive county agent and dairy farmers, held two sales of 60 odd pure bred females.

"Then Chester and Rock Hill each held a public sale of Guernsey females, which excelled all the other sales in prices and numbers.

"Since this time individual breeders, mill presidents, hotel companies, etc., have brought in Guernseys from all over the country, until today South Carolina Guernseys have come from 17 States in the Union, besides from across the water from England, and the home of the Guernsey—the Island of Guernsey.

"The enthusiasm, interest and success of dairying and breeding of Guernseys is not a fad or passing fancy, but a business proposition and a reality. It has become a real business founded on safe and sound policies, whose success has insured its future existence and continued increased interest.

"The Guernsey is probably the most attractive of all dairy breeds. She is kind, docile, strong and vigorous. Her milk is unexcelled in flavor and color. It is rich and the quantity is great. This is an ideal breed for South Carolina and Southern conditions.

"The Guernsey is the youngest bred of all dairy breeds in America today, and while she is small as compared with the Jersey and Holstein, her records and production is unexcelled, and are making her more attractive each day. The demand is simply unlimited, and in no place in the Union is this demand greater than in the Southern States.

"South Carolina is looked upon by the American Guernsey Cattle Club and Guernsey Breeders over the entire country as one of the most advanced fields for Guernsey interest in the entire country.

"Chester, in November, 1919, held the greatest Guernsey show that has probably ever been held south of the Mason-Dixon line, with Lee County a close second.

"It is estimated that within the past two or three years more than 300 pure bred females, more than 350 grades, and also about 35 bulls of the highest type and blood lines have been brought into this State to add to the already attractive number of Guernseys within her borders.

"Efforts and arrangements are now being perfected to bring Guernsey cattle to South Carolina direct from the Island of Guernsey, and it will not be surprising to see the results of the next two years double those of the past three or four."

THE POLAND CHINA.

"This hog has a special fascination for me," writes ex-Senator S. J. Summers, of Calhoun. "I never liked boldness in a person, and neither do I like one to have his ears always pricked up as if he is frightened and ready to run. This applies to the hog as well as to the human. When I look at the big, gentle, kind Poland China, with his ears drooping over, a clean, clear-cut eye, and then hear the friendly grunt, it strikes me that this hog is getting near the point of perfection. Then I look him over, note his nice smooth coat, good strong back, broad deep hams, and a body that shows finish from tip to top and all of this placed on four good strong legs that can carry over 1,000 pounds overweight, it seems to me that we are getting close to the ideal and have the stuff to feed the world. This the Poland China is preparing to do if we will just give him a fair showing.

"About 1830 to 1840 the farmers in the Ohio valley wanted a hog that would make the greatest profit on the least cost, also one that was able to walk for many miles to market as railroads were not so close in those days. After experimenting for some time they developed the hog that has since been improved and given the name of Poland China. They were very popular in the West and were the hogs that furnished the meat for our Southern States. Strong and hardy with great frames and the quality of taking on flesh when properly fed they were the Western farmers' hog.

"About 20 years ago the breeders conceived the idea of developing them with black bodies and six white points. Originally they were white and black spotted. By selection and careful breeding

we did develop the black bodies and six white points, but at the expense of size and stamina. The small, black, smooth hogs were called 'hot bloods,' but after eight or ten years' experience we found these hogs too small, unprofitable and losing out with the farmer as they did not make the amount of meat. However, there were a few breeders who stuck to the 'big ones' and soon they came in favor again. These have been improved and are known as the 'Big Blacks' or 'Big Type' Poland Chinas.

"During the 'Hot Blood' period some of the other breeds became very popular and especially in the South. For a while it seemed that unless a hog had 'red hair' on it, it was a 'has been' and not to be classed as an up-to-date animal. Well do I remember about six years ago a number of gentlemen interested in swine visiting me and when they saw my herd said, 'Well, Doctor, you have nice hogs, but you have the wrong kind. You had just as well get the "Reds" and be with the boys.' I laughed and said somehow I always liked the 'red haired' girls but could never get the consent of my mind to risk one as a life partner, and I just naturally liked black hair and would stick to my first love.

"We have had some good strong competition for several years, great hogs of both breeds, but the 'Big Types' are gradually gaining favor until today we cannot supply the demand for them. They are prolific, grow rapidly, easy feeders, and have quality second to none. As to meat products, they not only produce the amount, but the finest, big, thick, tender, juicy hams of any hog living. The sides properly cured make breakfast strips that are too good for kings.

"I had five sows to farrow fifty-four pigs this fall and from the number of sows the general average per litter was nine and one-half. These sows are kind, gentle mothers, good nurses, and will produce two litters a year. If properly cared for the pigs will weigh from 250 to 300 pounds in ten months and if fed for quick development will weigh much more.

"The Poland China is a money maker for me. They will do their part in solving the boll weevil problem, and there is no danger of overstocking the market or pork getting too cheap to be profitable. When we plant less cotton and more corn and peas, beans, potatoes, rye, oats, peanuts, etc., and get the hog to do the gathering we will get more profit than cotton at 50 cents per pound under present conditions.

"We often hear the cry that if we grow these things there is no market. My answer is the market will be here as soon as these products are. The towns and cities are to be fed. The enormous increase in population calls for an increase in farm products. There are so few producers comparatively that food products must stay up, if not go even higher, until more people go to the farms and become producers instead of all consumers.

"Once we become adjusted to the labor conditions and get away from the all-cotton farming we will find we can produce these other products much more economically and with more pleasure. One great factor in helping the farmer in this trying crisis is the 'Big Type' Poland China hog. All he wants is a fair chance and he will help to keep the bank account on the right side of the sheet."

THE FARMER'S SALVATION.

"Five years ago I started in the registered hog game on a small scale," writes G. G. Palmer of Cartersville. "Found that I could sell everything I raised. Found it quite profitable, so I have enlarged my herd every year. Today we are breeding 40 brood sows that will weigh 600 to 800 pounds each, and we are raising and selling from 450 to 500 pigs a year.

"I specialize on the Duroc Jersey and consider him one of the best hogs in the South. While we have sold over 50 per cent. of the hogs we raise as breeders, I am sure that my plant would pay a profitable dividend if we sold everything we raise for pork.

"I have traveled through several of the hog States and from what I have seen and the experience I have had I am satisfied that South Carolina has both the soil and climatic conditions to be made one of the greatest hog States in the Union. I have found abruzzi rye, rape, and soy beans to be the most profitable grazing crops. Burr clover and Bermuda grass the most profitable permanent pasture.

"The necessary equipment for hog raising in South Carolina compared with the central States is not one-third as expensive. We find no trouble in the South producing two litters of pigs per year from a brood sow. We have grazing crops the year round. With these advantages alone, I think we can produce pork at least one-third cheaper than the colder States, for they have no winter pasture that will compare with ours and very few breeders get over one litter a year out of a brood sow.

"I believe the hog will be the salvation of the farmers of South Carolina when the boll weevil curtails the production of cotton in our State as it has in other States."

GREAT DEMAND FOR WOOL.

A suit of virgin wool is hard to find and will cost not less than \$100. It contains \$5 or \$6 worth of wool and such a suit at one time cost \$20 to \$25. Good, serviceable woollen clothing will not be worn generally until the flocks in America are increased materially. There is no reason now why woolens should be so outrageously high, but that is the case and the only way to beat the price down is to increase the supply.

The wool growers made in 1919 a fight such as that started in South Carolina by the cotton planters. This organization in Ohio forced the price of the 1919 clip from 35 cents to 90 cents average per pound. This proves the value of organization among the farmers.

More sheep and more wool is now a most important subject for consideration by the American people, and is a great opportunity for the South.

Adversity has reduced the flocks, and all endeavors and propagandas have failed to increase them. They have yearly faded away, while population and demand for wool has increased.

Americans will crowd into any endeavor that is profitable, but if it does not pay, they drop it. A conspiracy of low prices for wool has made the supply a deficit.

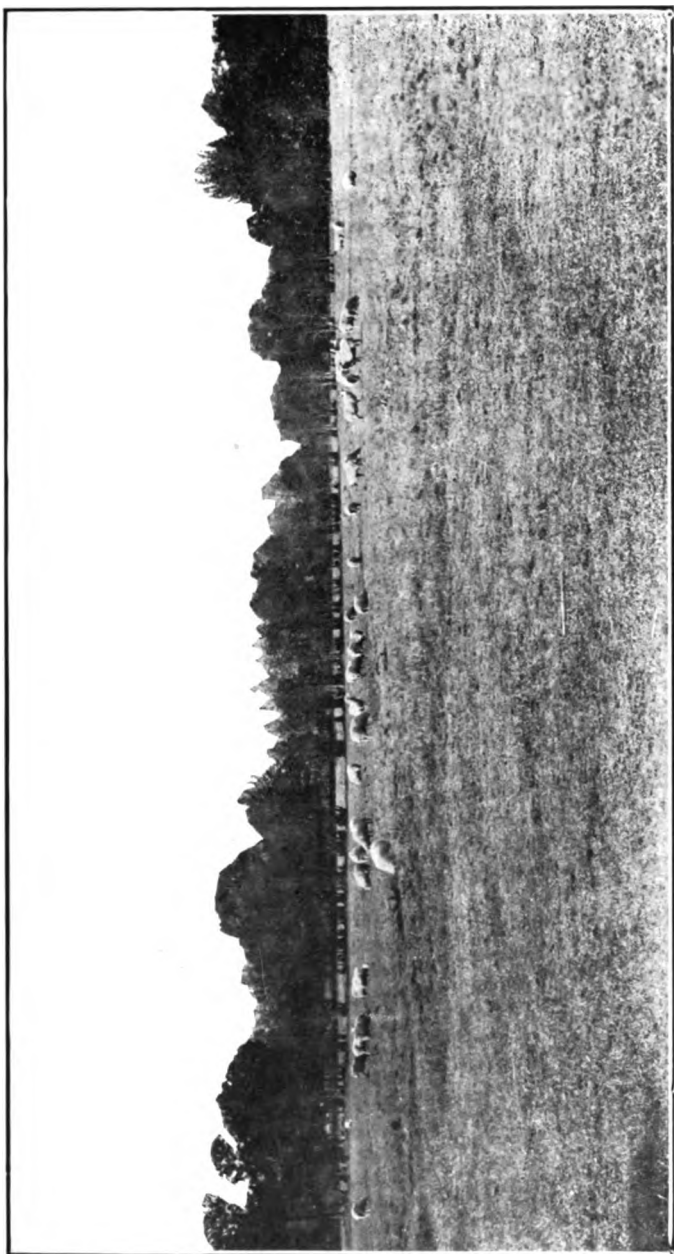
The industry has been so hopeless that no new men entered it, and as the old-timers passed away, Young America saw it was a losing game. Sheepmen, themselves, have been carelessly sleeping and conditions became about as bad as they could get.

Reconstruction has stirred and awakened the flockmasters in some States and they have organized to protect the remaining flocks and increase them. They are hopefully caring for the sheep, and mean to increase them, as well as to induce others to engage in them.

The outlook for a stable sheep industry is good this time.

SHEEP VERSUS DOGS.

A sheep does not eat any more than a dog. A sheep furnishes wool, which is of extraordinary value for clothing. The meat of the sheep is good to eat. It is more nutritious than pork.



THIS IS A RARE SIGHT IN SOUTH CAROLINA, BUT SHOULD BE COMMON.

The dog eats food that a hog should have. The dog furnishes no wool. Our dogs, mongrels and stray dogs are vicious and have no place in our economic life. If there were no dogs to bite, there would be no need for the hair, and that's about all the service of which we have heard that dogs are capable.

The Department will not go so far as to say that all dogs should be killed, but we do advocate legislation that will eliminate useless dogs.

Sheep should be found profitable on practically every upland farm in South Carolina. A small flock of sheep, not to exceed 50 ewes, can be made a source of revenue and of additional food supply on every average farm. This will be largely net profit, although, of course, the sheep will require some watching. With our hillsides abounding in Lespedeza and native clovers and hardy grasses, there is enough to sustain a flock of sheep without much cost.

Six farms of every seven in the United States have no sheep. Sheep can be raised on almost any farm. More than the entire wool production of the United States was used for clothing our soldiers. Where will we get wool to clothe our civilians?

The General Assembly would not act unwisely to put a bounty upon the growing of sheep—and a like bounty upon the killing of stray dogs. It would not be amiss to have severe penalty for the slaughtering of lambs. There are actually 1,300,000 fewer sheep in the United States this year than in 1914. The wool production of this country has decreased steadily since 1912. It was 321,362,775 in 1910, 290,192,000 in 1914, 289,492,000 pounds in 1916, and 285,573,000 in 1917.

The amount of wool manufactured increased from 550,356,525 pounds in 1914 to 787,679,934 in 1916. This year the amount to be manufactured must necessarily be much larger.

We will raise more sheep when we kill more dogs. Senator Vest made the "yaller dog" famous, but the legislator who now will force the enacting of an anti-dog law will in a few years be as famous as Senator Vest, and for a more sensible reason.

South Carolina has been going backwards in sheep raising, and forward in dog culture, although the statistics as to dogs are seen in the highways and byways and not on the tax books. And yet, according to the tax books for 1916, the value of all sheep in South Carolina was \$32,732; hogs, \$612,757 and dogs \$633,703! What a shameful condition in this comparison. A non-produc-

ing element more valuable than two potentially producing factors.

The sheep growing industry shows the greater development before the War of Secession than it has at any time since; however, we learn from the 1907 handbook of South Carolina, by Col. E. J. Watson, that there were in this State in 1880 118,889 sheep. As late as 1907 there were 60,000 sheep in this State and this number makes the statistics for 1917 place South Carolina in a very unenviable light.

According to the same publication, there were 116,000 pounds of wool scoured in the year 1907. Even this small amount, at the prevailing prices today, indicate that great loss in South Carolina on account of the decadence of this industry. In connection with the growing of sheep, we should be mindful of the tremendous increase in the price of poultry and dairy products. The U. S. Department of Agriculture is laying great stress upon the military necessity of egg production. According to the last census, there were 6,371,502 farms in this country, of which 1,527,743 reported no egg production. The Federal Department urges that there should be at least 100 hens on every farm. The present average is 40 hens. This Department wishes to urge the production of anything that will take the place of beef and pork, which may be released to be sent across the ocean to the hungry people of the devastated lands.

THE BERKSHIRE'S SUCCESS.

Zed L. Williams of Columbia has been in the mercantile business all of his life until 1914 when he acquired a farm in the sand-hills of Richland County. This was then regarded as poor land, but this young man, who knew nothing of farming, applied common sense and business methods to his new place and has made a success, such a success in fact that his Berkshires have taken many prizes at fairs and he has sold his pigs all over the South at very fancy prices. He is now president of the Southern Berkshire Congress.

"My experience in breeding pure bred Berkshire hogs in Richland County, South Carolina, has been very gratifying," says Mr. Williams. "The climate is well suited; we can raise grazing crops continuously; the soil is well adapted, and with shady pastures there's no fault to be found with the natural conditions.

"I would advise every farmer to raise pure breeds of all kinds usually found on a farm. The pure bred more than pays his way, then as a breeding proposition there's more returns.

"The way to start, in my opinion, would be for those who have had no experience to go slowly. Get a few and learn something of the art of breeding and handling improved live stock. Subscribe to several of the best live stock papers and gradually grow into the business. One will be surprised how quickly all this can be done. Get a few head, but get the best of their kind.

"My farm cost me about \$150 per month to operate, having to hire all work done, as I do not live on the farm. We have nearly 100 acres, of which 40 is in cultivation, the balance is woodland and pasture. I pay my foreman \$50 per month and a helper about \$35 per month. They do all the work with a herd of nearly 100 head of hogs, and also farm the land. We do not raise enough feed to do us the year round, keeping two mules to do the farm work, haul shipments to town and do all other work connected with farming. My sales from the farm this year will be about \$5,000, all the proceeds from hogs. Of this I figure we make \$1,500, not including improvements and enriching the soil.

"I have sold boar pigs for as high as \$600 each, shipping one such animal to Pennsylvania. My farm is five miles north of Columbia, on the Winnsboro Road, and is now selling at \$100 per acre. We have taken quite a few prizes and shipped hogs all over the United States."

Following is the advice on hog raising given by N. A. McMillan, of Dillon:

"The question is often asked, 'does it pay to feed high-priced grain to hogs to be sold on the market as pork? Any kind of farming will pay in proportion to the skill and energy expended. This applies in a peculiar sense to hog raising.

"Every one who owns land can, if he will, make 100 per cent. profit on hogs for the market as pork. To do this, however, he must have pigs from thrifty and mature stock. 2nd. He must provide pastures for them where they can get an abundance of green feed—rye with rape and clover for the winter, and crab grass and bermuda for the summer months. 3rd. He must keep stock free from lice and worms. 4th. He must feed at least twice a day just what grain the hogs will eat up clean, with plenty of pure, clean water.

"By following the above rules this season, I have been able to get a gain of 2 3-7 pounds gross per day from pigs four months old, with two feeds, and with three feeds per day I got 2 6-7 pounds per day. I am now killing hogs just one year old which have made a gain of one pound per day, or 365 pounds dressed. These have not been on pasture since May. 365 pounds at 24c, equals \$87.60.

"Cost of feed averages 15c per day, or \$54.75, making a profit of \$32.85. Every one who owns land owes it to those who live on that land that they should have milk, butter, meat and lard every day, raised on the farm and not bought."

THE COTTON CROP.

The cotton growers for fifty years virtually starved, especially the small growers and the tenant farmers, white and black. The average yield of cotton on Southern farms was about six bales per farm. At 10 cents a pound, this meant \$300 a year as the gross income of a farmer and his wife and children, because he was only able to raise cotton at these prices by having his wife and children work in the cotton field. The wife should have been at home, the children should have been in school. The blight of illiteracy has been upon the South because of the curse of cotton fastened upon this section by the economic slavery which chained it to low-priced cotton after the war. With a grower's income of \$300 a year plus a small amount received from seed, one-third to one-half of this amount had to be paid for rent of the land, and out of the pittance left these tenant farmers by the hundreds of thousands had to support their families.

If the growers stand firmly by the American Cotton Association and refuse to sell until they get a fair price for their product, the small crop now being harvested will prove profitable, notwithstanding the disastrous weather conditions which have greatly contributed to its reduction.

The cotton organization movement is the greatest commercial enterprise ever undertaken in this country, and its success rests entirely with cotton growers and the business men with whom they are immediately associated. If they stand firmly together they will succeed in their undertaking, and if they do not they will surrender the greatest opportunity they have ever had and precipitate a general financial failure among cotton growers and business men in the South.

The American Cotton Association was formed less than a year ago, but it is already becoming the guiding star of the cotton-grower. It is showing him that he produces the fibre that clothes all the civilized world, a product that all mankind must have and must take on whatever terms he names if he is prepared to enforce them.

It is seeking to liberate his wife from the slavery of the cotton field that she may make her home a happier abode for her hus-

band and children. It is convincing him that never-ending toil of his children in the cotton fields without even the hope of compensation beyond a bare living should cease, that the one-room school running only five months must give way to a better educational system.

PROVIDENCE PULLED US THROUGH.

Immediately after the signing of the armistice the question came to nearly all thinking persons: How are we going to pay for our victory? The United States was organized to go for three years if necessary in a stalemate, and this organization, flung together in titanic haste and necessarily with waste, ceased to function almost as suddenly as the miracle which gave it such tremendous force.

The news that the war was over brought much gladness, but it was also the first hour in two years during which our people had had time to pause and take stock. It was as uninviting a task as taking stock in a toy store just after the Christmas rush. It was with trepidation that even the bravest hearts in South Carolina faced the future in January, 1919. In all of the uncertainty there was one great joy: Our boys were coming home from France. Perhaps that alone gave us such abounding optimism as we went forward to try to reconcile ourselves to the new normal.

The farmers of South Carolina appear now to have been too confident and nothing but God Himself and the agency of the American Cotton Association saved them from disaster. This is a strong statement, but it is true. The figures show that the cotton farmers of this State, despite all the warnings, all the pleadings of the association, did not reduce the acreage that they planted in cotton. But the boll weevil in the southern point of the State and the excessive rains in other sections cut down the yield. This saved the farmers, for if they had grown a bumper crop, that fact would have had telling effect upon the prices offered us by the Wall Street gamblers. But a kind Providence watched over us and pulled us through.

A BRILLIANT CAMPAIGN.

The literature of the American Cotton Association is voluminous. The campaign made by President Wannamaker in 1919 was vivid, picturesque, forceful and in substance the most compelling that has ever been made by one man for one industry in the his-

tory of this country. He not only sought to arouse the farmers to a sense of their own isolation and danger,—and yet to inspire them with courage and to portray to them his vision—but he even invaded the enemy's country and by personal letters and circularizing he won their kindly regard for the South. While he was unsparing in his denunciation of grafters, he was not unkind in his references to honest persons who had a different point of view. The culmination of the whole wonderful, brilliant campaign was his address which placed the cotton farmers in the right light before the World's Cotton Conference in New Orleans. The spinners of the world were declaring that the world needs more cotton and that it is the bounden duty of the South to produce more cotton so that the world will not go naked. Mr. Wannamaker challenged this statement, saying that the cotton farmer's first duty is to his own family. The American Cotton Conference, whatever may have been its purposes, became a triumph for the Southern cotton farmer. I wish that I could go into some of the publications of the American Cotton Association, but space forbids my publishing from them copiously. Therefore I will say that those who are interested may keep up with the association through its publication—Cotton News.

A NEW ALLY AT HAND.

The cotton farmers of the South found a new and I believe powerful ally in R. H. Edmonds, Editor of the *Manufacturer's Record*. He claims that he has been consistent, and we must accept his statement, although many in the South thought he was not with the farmers in the wreck of 1914. This year has proved what I have contended for many years—that cotton mills can thrive on high priced cotton. Some years ago the cotton mills strenuously denied this, saying they would be ruined on high priced cotton. But they have made much money this year, and they have paid more for cotton than ever in the history of the staple.

WHAT PUTS COTTON DOWN.

In 1914 the South raised its record crop of 16,000,000 bales of cotton, or far more than the world needed following a big crop of over 14,000,000 bales in 1913, as compared with 13,703,000 bales in 1912 and 15,693,000 bales in 1911. On the other hand, the country's production of wheat, corn and oats for 1914 was 570,000,000 bushels short of the crop of 1912, and this, too, followed

a short crop of 1913, when the decrease was 940,000,000 bushels compared with the yield of 1912. This enormous decrease in grain production in 1913 and 1914 was the very opposite of the condition in cotton, the production of which far exceeded the world's actual requirements. Under this situation we would have had high prices for grain and low prices for cotton had there been no war. The Southern farmer had simply raised far more cotton than he could possibly sell at a profit.

A FIGHT FOR LIBERATION.

My interest in what is now the American Cotton Association antedates its origin by 35 years. When I began farming immediately after the close of the War of Secession, I made a failure in cotton. As my object in farming was to make a living, I quit cotton and tried what is now known as diversified farming. I have never had cause to regret the change.

When my eyes were opened to what could be done, I wanted to tell my fellow farmers so that they, too, might live in more contentment. I believe that the first meeting of farmers called to organize to fight the combination of interests holding down the price of cotton was held in 1902 in Anderson Courthouse on my call. I then a few days later called a State meeting during the State Fair of that year and we organized the State Cotton Association.

We had ups and downs. The farmer has not had enough persistence. When he would get a good price for cotton his interest would wane—and cotton would go down again in price. I have stuck to all of the efforts to get co-operation among the farmers, bankers and business men of the South, for really the farmer's fight for existence was the fight of all classes in the South.

In the summer of 1918 there was some talk that the War Industries Board at Washington would fix a price on cotton—at that time its intrinsic value was not less than 35 cents a pound, but the rumor put the price down to around 22 cents. A conference of Southern Commissioners of Agriculture was held in Washington to expostulate with Bernard Baruch and the cotton committee working under his board. By invitation of A. C. Summers, then Commissioner, I attended the conference, as I had been elected Commissioner although I had not taken over the office. The price of cotton was not fixed. But the channels of trade had been clogged with cheap cotton. Then came the armistice.

A State meeting was called in the court house in Columbia by Commissioner Summers, Commissioner W. G. Smith of the State Cotton Warehouse system, and Capt. R. M. Claffy, President of the State Farmers' Union. The interest of the people was aroused. Subsequently I invited Dan J. Sully, the old cotton bull who had helped the South once before, to address a subsequent meeting and to show the farmers how they could win their fight. At this meeting J. Skottowe Wannamaker came to the front. He was the man for the hour. His brilliance, his enthusiasm, and his courage enthused the cotton farmers. The coming of Mr. Sully was at a time when our hopes were flagging, although personally I had determined never to give up the fight, and to have others to come on after me until it should some day come to pass.

Next I invited to Columbia W. G. P. Harding, Governor of the Regional Reserve Banking System of the United States. He made an address before the Legislature which gave stability to our fight and dignified our campaign as nothing else could have done. We organized the South Carolina Cotton Association on a sound basis and South Carolina led and forced the organization in New Orleans of the American Cotton Association of which Mr. Wannamaker was elected president.

I wish to say that all this was not accomplished as easily as it here might appear. There were obstacles, there were objectors, there were wolves among the sheep. Sooner or later they were spotted and eliminated. The work of the American Cotton Association was a success, is yet a success.

I could feel that the price of cotton would advance as soon as the Association got to going. I did the pioneer work of organization in portions of Texas, Arkansas and Oklahoma. It was a tax upon my strength and in the early fall I came down with an attack of Spanish influenza, which was a great misfortune to me as I had intended to go about among my own people trying to give them encouragement and advice for the fight in 1920, the double enemy of the boll weevil and price depressors. However, I tried through the newspapers to reach the people and tell them to grow turnips for the fall, then to sow grain. I also preached sheep raising, mule and horse raising and other lines of diversification.

I go at length into the matter of the Cotton Association, not alone because of my work as Commissioner, but because it is a

matter of history. It is too big an achievement for me to discuss in detail, but it was the salvation of agricultural interests in South Carolina in 1919. Cotton was the only crop which was produced that brought in more revenue than in 1918.

I need not argue in justification of the Southern farmers to organize. He has done so. There is one thing more that he must do—"When you have put your hand to the plow, never turn back." The farmer unaided could not have carried his fight to this measure of success. He has been helped by numerous agencies. The bankers especially have done their part by helping the farmers to keep the cotton from the market. There was, of course, some distressed cotton that could not be saved. The association had not been able to organize its great holding corporation, but it had done one thing—it had educated the people through the most remarkable campaign of publicity that was ever known in this country, and for this I give all honor to J. Skottowe Wannamaker.

IS NOT A CHEAP CROP.

There is a deep-seated belief in the Southern mind that cotton can be grown cheap. This belief was inherited from the regime of human slavery before the Civil War and the regime of economic slavery since the war. The service of the American Cotton Association that will perhaps be of more practical value to every interest in the South than any other will be the breaking down of this belief and establishing in its place a more enlightened view as to what it is costing to grow the cotton crops.

This belief regarding the cost of producing cotton, like all ancient and conventional opinions, is characterized by much unreasoning obstinacy. It is going to take a long and tiring fight to break it down. It is not going to give way today or tomorrow. It has got to be hammered persistently every day and from every direction.

No one crop will make people prosperous. It might be better to stick to the evils (and the weevils) that we have than to fly to those we know not of. We must forsake cotton, but we must not expect too much suddenly of any other one crop.

SUPREMACY IN TEXTILES.

The war has brought about a change in the movement of cotton that is worth study. Advices received through American officials abroad indicate the possibility that the United States may soon

contest with Great Britain supremacy in the cotton textile industry.

The averages for the years from 1890 to 1914 show that this country consumed 31 to 38 per cent. of our own crop. But the statistics for the war years shows a very rapid increase of demand at home for the 12,000,000 bales produced in the United States: In 1915-16 we used 53 per cent. of the domestic crop; in 1916-17, 54 per cent.; in 1917-18, 58 per cent. This means that British spindles are being gradually cheated of the raw material that has for so many years given England the lead in supplying the world with cotton textiles.

Great Britain will make a strenuous effort to grow cotton in her own colonies, but the American crop will be vitally necessary to keep her spindles running. Of the four million bales of India, one-half are required for the clothing of the people of that country. In fact the population of British colonies is growing more rapidly than the extension of the cotton growing industry.

WHO GETS THE GRAFT?

An interesting statement in regard to the price paid to the farmers for cotton was recently made by O. J. McConnell of the Bureau of Markets, United States Department of Agriculture. He says that an examination of 15,000 samples between September 11, 1916, and January 11, 1918, revealed that "a comparison of all coinciding sales as to grade, staple and date, selected from the sale of approximately 200,000 bales so'd in the States of North Carolina, South Carolina and Georgia, showed that the mills paid an average of 232 points, or \$11.60 per bale, more than the average price received by the farmer on the same date for cotton of the same grade and staple."

There is more of interest in Dr. McConnell's statement, which is a document of the greatest value to Southern farmers. He shows the gross carelessness, or worse, in the buying of cotton. "One of the most surprising features brought out in connection with the investigation is the wide difference in prices paid by mills for the same grade on the same days. In the accompanying table, which lists a number of such instances, a difference of more than \$15 per bale is shown in some cases. In a few cases the mills paying different prices were located in the same town and bought the same cotton from the same shipper."

The Commissioner, observing and realizing these same outrages upon Southern farmers and Southern commerce over a period of years, feels that he has spent well and usefully this brief tenure of his administration if he has been able, as he believes he has done, to take the initiative and to aid in organizing the cotton farmers.

FARMERS TO BUY COTTON.

On the 20th of November I gave an interview to the newspapers in which I said that the farmers of South Carolina had an opportunity to "clean up" several million dollars very handily before June, 1920. The article stated, "The Commissioner is confident that if the farmers will hold off the market every bale that is now unsold the price will advance to 60 cents a pound by the first of June. With all of the money that is in circulation today the farmers can hold the cotton with no hardship to themselves and yet have enough money to start another crop year."

Subsequently I made the statement that if the farmers wished to get rich, let them buy May futures, for I knew that cotton was sure to advance by then. Of course I did not intend literally to advise farmers to go to speculating in cotton, but that was a figure of speech I used. A few days later a farmer whose name is well known to thousands in this State took my advice seriously and bought some cotton for May delivery. He got it for 30 cents and when last I heard from him his cotton had gone to 34 cents and he had made about \$1,500.

EARLY GINNING HARMFUL.

Early in the fall, before cotton was being picked, I urged the farmers not to have any cotton ginned, but to let it lie in the barns and cribs for four or six weeks. My advice, I believe, was sound. As incredible as it might appear seed cotton will pick up weight if it is not ginned. Wet cotton should not be ginned because it will not turn out a good sample. Seed from cotton ginned while wet are not suitable for crushing. There are several reasons for this, and I hope that by next September the farmers will be in good position to heed my advice.

"SIT STEADY IN THE BOAT."

During the year I have done quite a lot of philosophizing about the price of cotton and I have heard of some who have made fun of my slogan "Sit Steady in the Boat." I astonished the

public when I declared my belief that cotton is worth 65 cents a pound and would actually bring 50 cents by the spring of 1920 and 60 cents by May. If I am befuddled I claim to have some good company. Charles H. Fish of Boston, former president of the National Association of Cotton Manufacturers, while attending the world cotton conference in New Orleans, made the public statement that cotton would soon rise to 50 cents a pound. He based his belief on the report that the present American crop would fall below 10,000,000 bales. The increasing demand for cotton goods also would be responsible. I am willing to concede that a New England manufacturer was right.

WORLD'S COTTON CONFERENCE.

The Commissioner, along with other farmers from South Carolina, attended the World's Cotton Conference in New Orleans—October 17th to 20th. At first some of us had our misgivings. In fact some went so far as to express the suspicion that this was a case of "Greeks bearing gifts." Now that the great occasion has come and gone, I am free to say that I never heard of any Trojan horse being found.

It had been feared by some that the organization and success of the American Cotton Association had caused the bear interests to promote this meeting for the purpose of dwarfing and finally destroying the farmers' organization. The only effect upon the American Cotton Association was to establish it as nothing else could have done.

The coming of mill men from the British Isles and from New England was in a way an education to them. Not before had they realized the conditions in the South. Mr. Wannamaker was the man of the hour. He rose to the occasion and presented the cause of the South so eloquently, so forcefully that our fight was won.

THE COST OF COTTON.

What does it cost to produce cotton? That is the cold-blooded question that has been asked of the South by those who have not understood her conditions. What does it cost to operate a store? Now, that is a question which may be answered more readily. The farmer has never taken into account his own time, nor that of his family. Usually in counting the cost of a year's work he considers fertilizer bills, interest, taxes, labor, etc., without giving

consideration to the value of the products of his own farm consumed upon the farm—such as fowls, pigs, sheep, beeves, etc.

Thousands of women, white and black, have for half a century labored in the cotton fields in the severest drudgery and in abject poverty. Yet their labor has not been considered as an item of expense in the growing of cotton.

W. W. Morrison of Texas has written a very able article showing that it cost 47 3-8 cents per pound to grow the present crop of cotton if all overhead and actual expenses should be allowed, as in the case of a commercial enterprise. The price of farm necessities (bacon, lard, flour, clothing,) advanced 273 per cent. between 1913 and 1919. Mr. Morrison shows that cotton now would have to bring 48.06 cents per pound to bear the same relation to the expense involved in its production that it bore in 1913 when the average price was 13 1-2 cents.

I have maintained all through the year, as I have for many years, that the dependence of the South upon cotton had made slaves of us. It has required this great war and boll weevil to give us our intellectual freedom and our commercial liberation. The farmer no longer is shackled to the plow handles. He may farm for the very love of the occupation and he may find plenty for his mind to enjoy and to expand.

The inquiry arises as to why cotton goods are so high. On what part of the journey from the producer to the ultimate consumer does the great price-increase attach to the finished product?

This is the point towards which inquiry and investigation should be directed in the search for the cause of the high cost of living. If this is fairly, honestly done, it will be found that the abnormally high prices for cotton goods are out of all proportion to the cost of the raw cotton. All that cotton growers ask is a square deal. They know absolutely that they are not profiteering. What they and the public wish to learn is who is profiteering in this great commodity. Is it the manufacturer, the middleman or the producer? When the cotton grower gets 30 cents for a pound of his raw cotton and then has to pay from \$1.50 to \$10.00 and more for this same pound of cotton transformed into cotton goods, he knows in his heart that he is no profiteer.

I have stated repeatedly in public that one reason why the price of cotton was so low in years gone by was because there were not as many people using cotton goods as should. The very people who grew the cotton were too poor to wear as much cloth-

ing as they needed. This is a solemn fact. But I know it is true. I have seen it. Now the South is able to buy some more calico and to dress out a little bit.

CONTINUATION OF OLD FIGHT.

In 1911, in the face of an impending disaster in cotton, with a 16,000,000 bale crop sure to bring great loss to the producers, the cotton growers, bankers and merchants of the South met at Montgomery, Ala., and formed the Southern Cotton Congress. That organization, with E. J. Watson at its head, made a winning fight. But the farmers of the South were too easily satisfied, and let their organization die. Again in 1914 the organization seemed to stem the tide which had set in toward total ruin. Neither of these organizations had finances and suffered because of their lack of permanency. Therefore, the present organization, the American Cotton Association, proposes to be a success because it will profit by keeping the fight going instead of being content with a half victory.

I present herewith my views on the production of the 1920 crop, expressed in a letter to The State newspaper:

To the Editor of The State:

"No Time to Reduce Cotton Production" is the heading of an editorial in your paper of today. Before undertaking to set forth reasons why I differ from you in this very important matter, I wish to thank your paper and the other newspapers in South Carolina for the space given to the South Carolina Cotton Association. But for the efforts of the association, here and in other States, cotton would not be bringing the price which has come so reluctantly, and in despite of all obstacles. But for the co-operation of the press, the association could not have achieved what it has.

Your editorial of today shows a continuation of your interest. I wish to express my appreciation, even if you are on the wrong track. You do not go as far as your correspondent who says that "such advice and suggestions (curtailing the cotton crop) are almost criminal." Your correspondent is very much exercised on behalf of the world at large, fearing the results of a cotton famine.

My dear sir, do we hear any complaint from him with regard to the great margin of profit that intervenes between the time the raw cotton leaves the farmer and the time that it reaches the

purchaser? No, the man who pays a quarter now for a ten-cent pocket handkerchief abuses the farmer for profiteering; when as a matter of fact, the farmer gets less than a cent out of the 15 cents increase in the price of the article. In other words, I wish to show by this illustration that the cotton farmer of the South is not the man who is holding up the price of the manufactured goods. Very little cotton has been sold this year in advance of 40 cents, yet the statement has been frequently made, and never denied, that the mills on their product out of this crop would make a big profit even if the cotton had cost them 60 cents a pound. We hear occasionally of farmers making a lot of money this year, and in some sections and in some localities this has been true. But when we consider the cotton belt as a whole, they have not done so well.

And even with cotton at 40 cents, consider what they must pay for next year's crop. The farmer has never had any capital stock on which to finance his business. He is generally a year behind. I say in all reverence, but equally as earnestly, "God pity the farmer who hasn't a little bit of cash on which to start his crop next year." He absolutely cannot afford to take chances in over-planting cotton. Getting more directly to the point of your editorial, especially your declaration: "Emphatically we advise that farmers produce every pound of cotton that they can." It is here that I wish to caution you to be very careful lest you lead some of our farmers into grave error.

Fortunately, or unfortunately, the farmer has a limit placed upon the amount of cotton that he "can" produce. This is due to the boll weevil. Would you suggest to firemen that the way to stop a fire is to gorge the flames upon kerosene oil? No more should you encourage a farmer to think that he can raise "so much cotton for the boll weevil and so much for myself." The boll weevil is a glutton and does his best to leave the farmer nothing. I commend your qualifying clause that the farmers should "raise everything of every kind that they can", but I think that there is great danger in encouraging the growing of what in normal times might be a large crop of cotton.

That has been the costly mistake of farmers in those States in which the boll weevil has had a full swing, as he will have next year in a great many counties in this State. In other States where the farmers were not warned in time, many of them failed, and even the banks and merchants failed.

Let us consider, for instance, the plight of some counties in South Carolina. What was the frame of mind of the farmers in Beaufort and Jasper and Colleton counties just a year ago? They said to themselves, "Well, the boll weevil is here, let us make one more big crop before he can get in his work to any extent." But the weevil was favored by a mild winter and his numbers increased amazingly. What do we now see from the ginners' reports?

This year in Jasper County but 1,954 bales against 5,506 last year; in Beaufort, 2,056 against 6,842 last year; in Hampton, 10,186 against 20,969; in Colleton, 12,036 against 19,237. Admitting that the weather conditions might have been a factor in reducing production, the evidence of those who have suffered is that the boll weevil wrought the havoc. Do they wish to plant another big crop, "just one more big crop"? They do not. They are clamoring for a substitute, for a diversified agriculture, and they must have it or they are ruined.

Why should we say that any other counties will be immune in 1920 from such destruction? Of what counties, if any, may we arbitrarily say are in a zone of safety?

Acting upon the experience of those who have had to combat the boll weevil, I would say that it would be unwise for any farmer to plant more than six acres to the plow. By using a lot of fertilizer properly, and by constant cultivation, it may be possible for him to keep down the ravages of the boll weevil. The farmer cannot do this if he continues to plant 15 to 20 acres to the plow, for the labor will not be available. It would be unwise to tell a farmer to plant in tobacco a larger acreage than he can give constant attention, and in the future cotton must be grown with the same particular care for each stalk. Once a week by picking up from the ground under the stalks all leaves and forms that have fallen, the farmer may protect his crop from millions of weevils, for they multiply almost as rapidly as a drop of ink will stain a glass of water. Six acres to the plow is about all that a farmer can give the care that the crop will require to bring a percentage of it through safely. If he overplants, he must abandon a large acreage—and perhaps will have a total loss.

Whoever would advise the farmer for his own best interest would caution him to go very slowly into planting any cotton unless he has the labor to fight for it after it comes up out of the ground.

B. Harris,

Commissioner of Agriculture, Commerce and Industries.

CAN ANY ONE TELL WHY?

Why cotton remains below 40 cents when it is worth 50 cents intrinsically is more than I can understand. Even the brokers of New York City realize this. V. S. Remington, of Fall River, Mass., who has been a cloth broker for more than 50 years, says that "if consumption is in excess of production and the people have the buying power, markets cannot fail to remain strong.

"The cloth market at the close of year showed the following salient points," he says. "Practically no accumulations; mills to greater or less extent well sold through the first quarter of the coming year; reduction of hours of labor from 54 to 48, say 11 per cent.; actual lack of operatives to run mills, at least 10 per cent.; lack of disposition on part of operatives to work steadily, amounting to fully 10 per cent. more in reduction of production; large increase buying power on part of both labor and capital. All these points making lack of production fully 30 per cent. over previous years."

The rule which he applies to cotton cloth also holds good for the marketing of the staple. Thank you, Mr. Remington. The boll weevil, the weather, and other agencies have reduced the production of cotton—and will keep it reduced.

SO, THERE YOU ARE!

Germany is in the market for cotton and will pay for it. Cotton and Finance, Theodore H. Price's paper, published a ridiculous story that German spinners wished to pay for cotton with shoes, leather, etc., in exchange. G. Bohmer & Co., of Hamburg, replied in a very courteous letter that they had bought \$4,500,000 worth of cotton in Houston, Texas, and that it had been shipped direct to Hamburg.

This correspondent also tells of the enormous lack of cotton in Germany: "We may tell you, that owing to the fact that cotton is desperately needed in this country, our government has put this raw material in the free list and all imports can therefore be

paid for either in dollars or in free marks, which can be transferred into foreign currency any moment.

"Since the raising of the blockade Germany's import of American cotton amounts to approximately 75,000 to 80,000 bales and we do not think that we will be able to take more than another 20,000 to 25,000 bales until the end of the year. Most of our mills are working on about one-third of their normal capacity and the rest have been closed down altogether owing to the lack of coal."

In August, 1914, the cotton growing industry of the world had reached the end of a period of gradual but steady increase in production, says the War Industries Board's Price Bulletin No. 23 on Prices of Cotton and Cotton Products, which is one of the series of the "History of Prices During the War." In a further discussion of the situation at that time the point is made that five-eighths of the total crop was grown in the United States and a little over one-half was consumed in Europe. The consumption of the Central Powers was put at 2,500,000 bales, against practically no production by them.

WERE NEEDLESSLY ALARMED.

I have declared for years that cotton mills need not be alarmed because of the high price of cotton. Yet the textile trade has always protested against the rising market. The results of the year 1919 should show conclusively that textiles can make money on high-price cotton. In fact the mills never had such wealth as they are now enjoying. The bulk of production has been cut down from what it might have been because of the short-hour days, but the value of the annual output is eleven millions in excess of 1918 which was so abnormal as to be a phenomenon.

HOW THE BRITON VIEWS US.

The editor of the Liverpool Dispatch after the British delegates had returned, published a satirical editorial in which he depicted the Southern cotton growers as boss of the situation. He concludes thus: "We learn that the farmer cotton grower by diversifying his crops is able to hold up supplies as he never could have done before, and is paying particular attention to establishing warehouses for the purpose of storing the cotton crop until he secures the price he wants." That warehouse idea seems to annoy the Briton.

FARMERS DIDN'T GET IT.

Merchants have been known to tell consumers that cotton goods are high "because cotton is high." Some of the more ignorant may believe it, but the more intelligent know better. Here is how a defender of 32-cent cotton illustrated it to a committee of congressmen before whom he appeared: He went to a dry goods store and bought six yards of gingham for which he paid \$4.50, took a receipt for it and attached this to the goods. When he appeared before the committee he had the gingham in one hand and a pair of scales in the other. He weighed the piece of cloth before them and soon figured that it contained 25 cents worth of cotton. Other people had added \$4.25 to the cost of that cotton after it left the farmer's wagon.

Cotton socks that used to sell for a quarter are now sixty cents to a dollar a pair "because cotton is so high." A prominent man said in Columbia the other day that he weighed a pair for which he had just paid eighty-five cents and found that they contained two ounces of cotton. He soon figured that the cotton in them cost four cents if the farmer got 32 cents a pound for it. The middle men, the buyers, and the people who spun the yarn, knitted the socks and sold them got eighty-one cents for their trouble, and the farmer got the blame for the high price of socks.

I made some of these experiments myself last summer and published the results in the newspapers. I found that the cotton in a union suit was worth but 20 cents at the best prices, and yet the garment was selling for \$2.50, and the farmer was getting "cussed" for putting up the price of cotton.

COTTON STATISTICS.

At the World Conference in New Orleans in October, Oscar P. Austin, statistician of the National City Bank, and formerly associated with the Government Statistical Bureau, made a most valuable contribution to the statistical lore of the cotton industry, by collating the most recent facts and figures and showing how necessary it has become for the various governments of the world to co-operate through their statistical bureaus with the various world associations to secure and disseminate more accurate information concerning cotton and its products. As I was greatly impressed with this address myself, I am giving to the people of this State some of the figures which Mr. Austin had collected:

GRAND TOTAL OF INVESTMENTS.

The world total of cotton capital, based wherever possible on official data and in other cases upon estimates obtained by consultation with experts in the respective lines, would thus aggregate at present values \$29,672,000,000, distributed as follows:

TOTALS BASED UPON PRESENT VALUES.

Cotton lands, including buildings and machinery ..	\$6,362,000,000
Capital invested in the raw cotton; annual average	1,500,000,000
Warehouses and expense of operation (estimated)	2,000,000,000
Factories and capital used in operation	6,060,000,000
Capital invested in output of factories; annual average	10,000,000,000
Knitting mills and their output (estimated)	1,500,000,000
Cottonseed oil mills and their output (estimated) ..	1,500,000,000
Miscellaneous (gins, compresses, finishing, dyeing, mercerization, etc.)	750,000,000
Total	\$29,672,000 000

The value of the cotton lands shows a wide variation. The figures for the United States are obtained from the Department of Agriculture at Washington, and for Egypt from Prof. John A. Todd, the well known English cotton statistician.

CAPITAL INVESTED IN WORLD COTTON PRODUCTION.

	Acres.	Average Value Per Acre.	Value of Land and Buildings.
United States	36,800,000	\$66	\$2,428,000,000
India	24,596,000	80	1,968,000,000
Egypt	1,822,000	750	1,366,000,000
Other	7,000,000	60	420,000,000
Gins, compresses, machinery, etc. (estimated)			200,000,000
			<hr/> \$6,362,000,000

CAPITAL AT AN AVERAGE OF \$40 PER SPINDLE.

United States*	\$1,500,000,000
United Kingdom	2,100,000,000
Continent of Europe	1,850,000,000
India	280,000,000
Japan	130,000,000
Others	200,000,000
	<hr/>
	\$6,060,000,000

*The valuation per spindle in the United States is estimated as slightly more than those of Europe, and especially those of the United Kingdom.

AN OPPORTUNITY FOR US.

The growth in output of silk manufactures by the United States is shown by the United States census reports as follows:

	Cost of Materials.	Value Added by Manf'r.	Value of Products.
1859	\$3,902,000	\$2,706,000	\$6,608,000
1869	7,818,000	4,393,000	12,211,000
1879	22,468,000	18,565,000	41,033,000
1889	51,004,000	36,294,000	87,298,000
1899	62,407,000	44,849,000	107,256,000
1904	75,861,000	57,427,000	133,288,000
1909	107,767,000	89,145,000	196,912,000
1914	144,442,000	109,569,000	254,011,000

Yet—not a pound of silk is produced, not a yard of the cloth is spun in South Carolina, a State as well suited to that industry as the negro and the mule are to the cotton patch. And that's a real affinity.

NATIONAL DEBT AND WEALTH OF ALL BELLIGERENTS.

	Estimated National Wealth.	Present National Debt.	Per Cent.
Great Britain	\$90,000,000,000	\$40,000,000,000	44.4
France	65,000,000,000	35,000,000,000	44.4
Russia	40,000,000,000	25,400,000,000	63.5
Italy	25,000,000,000	12,600,000,000	50.4
Japan	28,000,000,000	1,300,000,000	4.6
Germany	80,000,000,000	46,000,000,000	57.5
United States	250,000,000,000	26,600,000,000	10.6

THE AMERICAN COTTON ASSOCIATION.

The American Cotton Association is an old plan with new vim behind it. It is collective bargaining—a right which the farmers claim is theirs—to combine for the purpose of buying, selling or fixing prices for farm products. The business of the nation has grown from the individual through partnership into the corporation. A corporation is but a co-operation. The time had come, and the farmer for once was on the spot, when millions of farmers had to get together in a co-operation to protect themselves against other co-operations.

I wish to present the objects and aims of the South Carolina Cotton Association, branch of the American Cotton Association:

1. To protect the interests of the cotton producer and to improve his condition.
2. To promote economic regulation of cotton production to the end that supply shall be so adjusted to demand that the producer shall at no time be required to sell his product at less than a fair and reasonable profit.
3. To promote intelligent diversification of crops, and to develop markets for such crops, other than cotton, as may be profitably raised.
4. To improve and enlarge presently existing warehousing facilities and to secure additional facilities to the end that the producer may carry his crop, or such part as he may desire, at the minimum of expense and physical damage and at the maximum of security and financibility.
5. To broaden the markets for raw cotton and to enlarge the uses for cotton and cotton goods.
6. To improve and increase transportation and distribution facilities.
7. To collect information as to both domestic and foreign consumption of cotton, the state of trade, the extent of acreage, supply and condition of crop, and all other information of practical interest to the cotton industry, and to disseminate the results through the several sub-organizations to every member of every community, together with directions as to the course to be pursued in order to secure the best results in view of the facts disclosed.

I am persuaded that if this Department had done nothing else during the year but to work for the establishing of this association, the success of the undertaking would have justified the existence of this Department regardless of the regulatory work done. The association saved to the South something like \$500,000,000 and I believe that in South Carolina alone the amount saved was not less than \$65,000,000.

Within the week of my taking office, I appeared before the executive committee of the State Bankers' Association, of which J. Skottowe Wannamaker was president, and laid before them the cause of the cotton farmer. I told them of a rumor that had gone abroad that the banks were going to call cotton loans in February. I pleaded with them not to do this. There were about 700,000 bales in the hands of the farmers of the State. If the loans were called, the price would be depressed and cotton would go to 20 cents or 18 cents a pound. Since that time I have seen things which cause me to believe that cotton would have gone to 12 cents if we had not moved. I told the bankers that if the farmers suffered, the bankers would suffer. It was an opportunity not merely to encourage a few farmers to speculate in cotton, but to save the wealth of a whole section of the country. I am convinced that my plea had the desired effect, for the impetus to form the cotton association took a new start from that conference.

I wish to say in justice to my predecessor, Commissioner Summers, that he is responsible for "keeping the home fires burning" during the summer of 1918. There were numerous false moves made throughout the country; even the federal government seemed to have been inveigled into lending its influence to some of these schemes to depress the price of cotton. Commissioner Summers instinctively took the side of the producer and his good judgment kept the fight going steadily until the psychological moment when Mr. Wannamaker appeared on the scene and made the movement a great success.

I have never understood the philosophy that would urge spending large sums of money to teach farmers how to produce bountiful crops and then make no provision to market the increase. Selling is as much a part of agriculture as producing is.

It would be most unfortunate to produce a bumper crop of cotton in 1920, as advocated by certain newspapers and persons in high authority in agricultural matters in the State.

Already the demand for labor is the greatest the world has ever known, and the farms are yielding their labor to the demands of the growing Southern centers of population. That must continue to be the price the South must pay for building up her ports and her industries—at the expense of the farms. Where will we get the labor to gather even another 11,000,000 bale crop? And it is not likely that Texas and Oklahoma will in 1920 have a third of their crop drowned out as they did in 1919. Therefore, I say that it is most imperative that South Carolina farmers should plant conservatively. With labor, mules, fertilizer and all other costs so high, I believe that cotton produced in 1920 would be a loss under 40 cents a pound.

“Produce to the utmost” is the slogan of some of our greatest Americans. “Spend to the utmost” seems to be the intention of millions of our citizens. There is no telling whither this condition will take us. Unrestrained buying and insufficient production will plunge us into a chaos as ribald as that of Central Europe. Supply and demand and famine are old cronies. Yet was there ever such an orgie of spending as there was around Christmas time of 1919? We must pause.

As I had a controversy with one of the State newspapers about the production of cotton in 1920, I wish to back up my judgment with the following quotation from the Manufacturers Record of Baltimore:

“The supreme business need of the South in 1920 will be to raise more foodstuffs.

“No greater commercial folly could be committed by the South than to be tempted to increase its cotton acreage at the expense of its foodstuff supply. Any man who advocates that policy is going directly contrary to the best interests of the cotton growers of the South and of the country and of the world.

“Every possible effort will be made, directly and indirectly, by the world’s cotton mill interests to induce the South to increase its cotton acreage, but any man who does that from a selfish or from a mistaken point of view of an increased supply of his own raw materials will be endangering the world’s food supply.

“Millions of people are on the verge of starvation, and it is estimated that millions will actually die for lack of food which we are not sending in adequate supply and which Europe has not produced.”

Governor Calvin Coolidge of Massachusetts says the South must exert herself to the utmost to raise more foodstuffs. "We want something more than one crop men," says Governor Coolidge.

Governor Coolidge has no sympathy with the position taken by some of the cotton mill men of England and elsewhere that the South should go largely into cotton production, so that prices may be drastically reduced through the raising of a greatly increased cotton crop, for he holds that the cotton farmer is entitled to a fair price for his cotton, and that "no one has any right to ask the cotton farmer to sell his cotton at a price that does not bring him a profit." He would not have the cotton farmer and his family thrown back into the economic slavery which they endured from the time of the Civil War until recent years. The opportunities for education, decent living conditions and comfortable surroundings which prosperity brings should not be denied to the cotton grower any more than to any other man who works with his hands.

ON A SHOPPING EXPEDITION.

On the 6th of August, 1919, in company with Col. W. G. Smith, State Warehouse Commissioner, I went upon a little shopping expedition in Columbia to see what could be learned about the relative values of cotton fabrics and the raw cotton composing the finished goods.

Some of the results were startling. The next result of the inquiry was the firm belief that not only is the manufacturing industry making a good profit, but that the retail trade also is making a tremendous profit. Naturally my conclusion was that these profits should be divided with the cotton growers. Commissioner Smith was at one time a seller of cotton goods and also a manufacturer, and his technical information is regarded by me as of great value in this investigation.

For instance, it was found that a piece of 36-inch "four yards goods" was worth 25 cents per yard, or \$1.00 a pound. The cotton that made that pound of goods was sold for less than 30 cents.

A bit of 36-inch "fruit of the loom," 35 cents a yard, or \$1.38 per pound.

Graniteville, 36 inches, at 36 cents a yard, or \$1.26 per pound.

Pair of bed sheets, weight reported to be one pound, selling at \$2.18.

Piece of Utica, extra wide, 90 inches, selling for \$1.00 a yard, or about \$3.00 per pound.

We could see no reason why cotton that sells for, say, 35 cents, can produce goods, plain sheetings, that should fetch such a price.

The Federal Trade Commission in Washington recently supplied Senator E. D. Smith with some striking figures from the 1918 investigations, showing that when cotton was bringing 28 cents per pound and the semi-annual earnings on print cloths was 23 per cent., the semi-annual earnings on denims was 29 per cent. At that time the product was being sold by the mills at a very much lower price than at present.

FALL RIVER'S DIVIDENDS.

In his report last year, Commissioner Summers gave a most interesting statement of profits enjoyed by cotton mills in the Fall River sector. This is interesting to our people who grow the raw material.

According to investigations made by the Japan Spinning Association during the first half of this year the paid-up capital of all the spinning companies in Japan, numbering 33 (excluding the Tokai Spinning Company), totaled 124,355,229 yen (\$61,928,000), and net profits 45,196,570 yen (\$22,507,000), while the dividends paid averaged 52.7 per cent. of the paid-up capital.

Fall River cotton mills had a prosperous year in 1919, as shown by the fact that dividends declared by 38 of the corporations averaged nearly 15 per cent. for the year. There are deposits of \$15,000,000 in the four national banks of this city of 120,000, and the four savings banks of the city have \$33,000,000 of deposits. The prosperity is widespread and well diffused, therefore being shared by mill owner and operatives alike.

Comparisons of present print cloth prices with those of previous years as far back as 1850 show that only in the years during and immediately following the Civil War have prices been so high in seventy years as they are now. Furthermore, indications are that prices have not reached the maximum.

So long as New England mills prosper as they are doing now, and as they have done for the past two years or more, there can hardly be found occasion for complaint against the cotton growers of the South for the profit that in recent years, for the

first time since the Civil War, they have been able to obtain from cotton production.

On a basis of \$10 per spindle, the Fall River mills are capitalized at \$33,000,000. They paid in dividends in 1919 fully \$6,000,000.

A Fall River newspaper of December 31st says:

"Expectations of still higher prices in dry goods primary markets are not chimerical, as prices are going up steadily even at this normally quiet period of the year. As for cotton goods and cotton yarns, advances have become a daily habit. Staple gingham have sold as high as 26 cents a yard, and they have been priced at 23½ cents in one quarter, for the charging of 'at value' orders. This is 1 cent a yard advance, but the new price is four times normal values.

"Print cloths that were priced by the Government at 83 cents a pound are selling for \$1.17 a pound and higher, while sheetings that were priced around 70 cents a pound are now bringing \$1.00 a pound. The prices secured on fine cotton yarns and fine cloths made from them put silk prices in the sheeting class, in the estimation of converters who have handled the goods for years."

Now this will be good reading for Southern cotton farmers who will be pleased to see that the cotton for which they once received 8 and 10 cents per pound is now made into goods selling wholesale "for \$1.17 a pound and higher."

It was developed that in 1917 the cotton crop of 12,000,000 bales was produced by 2,000,000 farmers and farmers' families. Of these 90 per cent. operated small farms or paid rent and 62 per cent. produced an average of six bales to the farm. The average price of cotton last year was 27.6 cents per pound; so that the average income of these 1,240,000 cotton producing families was about \$75 per month for farm owners and \$56 per month for renters. Of course, there are farmers who produced more than six bales of cotton; but there is no industry in all the country so completely dominated by the small man.

STATE AGRICULTURAL HALL.

This Department is maintained by taxes collected by this Department in the form of licenses placed upon dealers in feeds, oils, and other commodities which are inspected by the Department and analyzed in our laboratories. If this fund is taken out of the hands of the Commissioner, as recommended by the Budget Commission, the entire amount may be lost to the State, should the matter ever be tested in the courts. It is a counterpart of the fertilizer tax, which is paid to Clemson College for the protection of the public against inferior products. The following statement appeared in the daily newspapers of December 30, 1919:

"The Commissioner of Agriculture is recommending that the Legislature pass an act to authorize the erection in Columbia of an agricultural hall and building to cost \$1,000,000. The plan is to pay for the building with the surplus accumulated each year by the State Department of Agriculture, and also with the rent from the eight or ten State departments now occupying rented quarters in Columbia office buildings. Space would also be reserved for branch offices of the extension forces of Clemson College.

"The building, it is pointed out, could also be utilized for the displaying of agricultural, mineral, textiles and exhibits of soils, resources and products of the fields and industries of the State.

"It would also provide for the appointment of a commission to direct the construction of the building, consisting of the Governor, the Commissioner of Agriculture, the Secretary of State, the State Highway Engineer and the director of the extension forces of Clemson College. It would require a loan from the State Sinking Fund Commission, to be paid back in annual installments. The following is the recommendation of Mr. Harris:

"In 1915 the then commissioner reported that the Department was self-sustaining. Today I am proud to report that the Department, after maintaining all operating expenses and paying all salaries, is paying into the State Treasury an amount approximating \$50,000. This is due to the increased business of the Department in the exercise of police powers in regulatory work.

OPPOSES CONTEMPLATED CHANGE.

"The Commissioner wishes to say frankly and emphatically that he fears that, if the revenues of this office are turned into the State Treasury for general governmental purposes, the point of class legislation and special taxation may some day be raised. If such a point were pushed in the courts, it might be detrimental to the best interests of the Department and of the people of the State who are protected by the regulatory laws which we are enforcing. Therefore, I am unalterably opposed to placing these funds in the general treasury, and renew the suggestion made by Commissioner Watson, and twice renewed by Commissioner Summers, that the State of South Carolina rear in this city an agricultural building, which would be paid for out of the excess funds of the Department.

"This building could be used as a general office building for numerous State departments now scattered over the city of Columbia, paying all manner of rents. The aggregate of \$50,000 a year from the funds of the Department, plus \$37,000 a year, now going for rents for offices in the city of Columbia, would pay for a \$1,000,000 building in the course of 12 or 15 years. This proposition will be discussed more in detail in other parts of the report, but I will here enumerate the departments and branches of the State government now without permanent quarters: State Bank Examiner, Insurance Commissioner, Highway Commission, Public Service Commission, Printing Commissioner, Tax Commission, Budget Commission, Railroad Commission, Pension Commissioner and State Board of Health.

"Some of these have temporary offices in committee rooms of the Legislature, and must move or store valuable records while the General Assembly is in session. I submit that it would be economical and in every way desirable to have the State's own office building, and the Department can readily pay for it in from 10 to 15 years. Furthermore, such a building could be used to house other government work. The tick eradication headquarters of the State and the bureau for the dissemination of hog serum are located in an office building in Columbia. These and other agencies could be better taken care of in permanent quarters provided by the State of South Carolina. I am informed that since the hog cholera serum distribution was moved from Clemson College to Columbia the output of the laboratory has increased to four times what it was a year ago. The success of this move sug-

gests that there are other agricultural agencies at Clemson that would be pleased to have permanent headquarters in Columbia, although remaining under the jurisdiction of the Clemson board, of course. Columbia, being the center of the State, has quick access to all parts of South Carolina and is the logical point from which to reach communities requiring aid immediately. In fact, the farm extension work, which was inaugurated in this State by Commissioner Watson, and which has reached its greater capacity for usefulness under W. W. Long, also needs an office in Columbia.

WOULD PAY BACK ANNUALLY.

"The Commissioner urges the Legislature to make provision at once for this office building, the funds to be advanced as a loan by the Sinking Fund Commission, and to be returned in annual installments, the departments, bureaus and commissions being required to pay such rental as they are now giving to real estate owners in Columbia.

"The urgency of this matter is made more emphatic because the University of South Carolina, which has been affording rooms for the laboratories of the State Board of Health and of the Department of Agriculture, has given notice that these quarters will be needed for the growing work of the University."

EXHIBIT A.

The following is a copy of the Bill which is to be introduced to create the building:

Be it enacted by the General Assembly of South Carolina: That a commission is hereby appointed and empowered for and to direct the erection in the city of Columbia, as near to the State Capitol as possible, an agricultural hall, to be used for the displaying of agricultural, mineral, textile and other exhibits of the soils, resources and products of the fields and industries of the State. That the said commission shall consist of the Governor of South Carolina, the Commissioner of Agriculture, the Secretary of State as ex-officio custodian of the State House and property, the State Highway Engineer, ex-officio, and the director of the agricultural extension work at Clemson College, these and their successors.

WOULD BEGIN WORK SOON.

Section 2. That it shall be the duty of the said commission to proceed at once to organize with the selection of necessary clerical help, and to commence at an early date the building of an edifice

suitable and ample for the proper displaying of the resources of the State. That said building shall, furthermore, be provided with offices and assembly rooms sufficient in number and ample in size for the housing of all officials, commissions; and agencies of the State as are now without permanent office accommodations, or such as may hereafter, in all probability, require offices. Furthermore, that ample room be provided for the agricultural and such like agencies of the federal government now or likely to be operating in the State, for the advancement of agriculture, commerce, industries and labor.

Section 3. That said building shall be of a dignity and importance in keeping with the varied and considerable uses required for it.

Section 4. That for the purpose of erecting such building, the Sinking Fund Commission of the State of South Carolina is hereby ordered and directed to pay to the chairman of said Commission, upon warrant of commission duly attested by minutes of regular meeting, an amount not to exceed \$1,000,000, to draw not to exceed 6 per cent. interest per annum, said sum to be used for the construction of said building and for the expenses of said Commission whenever the work of building shall actually be begun.

Section 5. That there shall be paid annually to the Sinking Fund Commission out of the incomes of the State Department of Agriculture, Commerce, and Industries, all funds in excess of the actual running expenses of said Department. Furthermore, that all State departments, officials and commissions now occupying offices not permanently their own are hereby directed to remove to said agricultural hall into offices which the Commission shall have constructed with especial care for their suitability and comfort. That for the rental of such offices or suites there shall be paid annually to the State Sinking Fund Commission, until the aforesaid loan shall have been retired, an amount equal to the amount of rent annually being paid by said officials, departments or commissions, upon the basis of the monthly rents for December, 1919.

Section 6. That as the capital of the State is the most accessible point within the State, the proposed agricultural hall and office building shall be made sufficiently large for the removal, at any time when it will become desirable, of all State and such like

agencies for regulatory, emergency police or extension work within the State.

Section 7. That said act shall become effective upon the signature of the Governor, and the members of this Commission not now serving the State upon salary shall be paid their actual expenses and \$10 per diem when engaged upon the work of this Commission.

EXHIBIT B.

To the General Assembly, State of South Carolina:

Gentlemen: Your committee, appointed under a Concurrent Resolution in February, 1916, and directed to make such investigations as may be necessary to determine what provision should be made for the proper accommodation of the departments and offices of the State Government, begs to report as follows:

1st. The committee has held three meetings, conferred with State officials and the Commisison on State House and Grounds, and has canvassed the situation thoroughly.

The committee finds that the following departments are in inadequate rented quarters, or without any accommodations whatever:

- Department of Agricutlure, Commerce and Industries.
- Board of Health.
- Railroad Commission.
- Department of Education.
- Board of Charities and Corrections.
- Insurance Department.
- Tax Commission.
- Warehouse Commissioner.
- Chief Game Warden.
- Bank Examiner.
- Public Service Commissioner.
- American Cotton Association.
- Hog Serum Office.

These departments are scattered about the city. Some of them have their laboratories and other branches widely separated from their offices, and the splendid museum of the Department of Agriculture, Commerce and Industries is entirely inaccessible. Under such circumstances the efficiency of the departments is impaired, and both officials and the public subjected to great inconveniences.

The State is now paying something like \$10,000 annually in rentals, and this sum must be constantly increased to keep pace with the growth of the State's activities.

The present accommodations for the Supreme Court are particularly inadequate and out of keeping with the dignity of that body, and the demand for a Supreme Court building has been insistent for years.

The need for legislative committee rooms, for the orderly consideration of the business of the General Assembly, is no less acute than for the other departments of the State Government.

The committee is deeply impressed with the urgent need for the concentration of all the State's business, convenient to the State House in ample, well lighted quarters, and that the proper provision should be made at the same time for a reasonable expansion in existing departments and the addition of others.

2nd. At its first meeting the committee retained Messrs. Wilson & Sompayrac, of Columbia, as its architects, who agreed to make preliminary studies and estimates, and advise the committee without cost to the State, but with the expectation that they would be employed to design and supervise whatever buildings may be decided upon.

The reports of the architects, dated Nov. 16th and Dec. 22, are submitted herewith, marked exhibits "A" and "B," respectively.

3rd. The committee has adopted and submits for your favorable consideration paragraphs 2, 3, 4, 5, 6 and 7 of the architects' report of Nov. 16, and recommends that two granite, fire-proof buildings of the same style and character as the Capitol be erected on the State House Grounds at a cost of approximately \$625,000.00 each, or \$1,250,000.00 for the two.

A group perspective showing these buildings in relation to the State House is hereto annexed, marked exhibit "C."

4th. For the purpose of carrying this recommendation into effect, the committee asks that this report be adopted committing the State to the definite purpose of erecting the two buildings, that the buildings be immediately authorized and the sum of \$25,000.00 be appropriated for the year 1917, and \$175,000.00 for 1918, leaving further appropriations to be determined as the progress of the work may require.

5. If the two monumental buildings on the State House grounds be deemed too expensive or otherwise inadvisable, this committee recommends that a suitable lot be acquired, fronting

on the State House grounds, and a modern, fire-proof office building, ten or more stories high, be erected thereon, at a cost of \$450,000.00, as provided in paragraph 8 of the architects' report, and that appropriation for building purposes for 1917-1918 be made the same as in paragraph 4 above, and in addition, the necessary appropriation for the lot.

Respectfully submitted.

Jan. 3, 1917.

EXHIBIT C.

**WILSON & SOMPAYRAC.
ARCHITECTS.**

Columbia, S. C., Nov. 16, 1916.

*Hon. J. M. Nickles, T. H. Ketchin, J. A. Berry, J. B. Wingard,
Commissioners:*

Gentlemen: As requested, we have made a careful study of the several projects discussed at your last meeting for the accommodation of departments and offices of the State government now without adequate quarters, and beg to report as follows:

1st. The building originally studied in 1914-15 at the request of Hon. E. J. Watson for the Department of Agriculture, Commerce and Industries, and later greatly enlarged at the suggestion of Senator Niels Christensen, to be located on the University property on Main street, between College and Green, is still before you and needs no further report, except as to the estimate. This estimate was based on the extremely low scale of prices prevailing at that time, as stated in the letter to Senator Christensen. Since then, there has been a great revival in building activity and an enormous rise in both materials and labor. That building should be estimated now at \$450,000.00.

2nd. After very careful consideration, we are of the opinion that adequate accommodation to meet all present and reasonable future needs, can be had on the Capitol grounds, and that such improvement will not detract from the dignity or beauty of the State House, provided two buildings are erected, one on either side, so as to preserve symmetry and balance, and provided further, that these buildings are of a size and character in scale and harmony with the State House. It is also our opinion that these detached buildings will present a very much better appearance and cost less than two wings added to the State House itself.

3rd. To obtain pleasing proportions for this group, it is absolutely necessary that the two new buildings be placed at the east and west, or longitudinal axis of the Capitol, and it is important that their street frontage on Sumter and Assembly streets, respectively, should center on the block. This necessitates an L-shape, and gives larger buildings than would otherwise be needed.

It is also necessary that the story heights in the Capitol be maintained in the new buildings, making the first story twenty feet, the second seventeen feet, the third fourteen feet, and an attic nine feet in the clear.

4th. We submit herewith tentative sketches, consisting of block plan and group perspective, from which you may see the type of building contemplated, and judge of its effect on the State House and grounds. We have purposely omitted from the perspective the monuments and foliage in the foreground in order to give a clearer view of the buildings.

5th. We have not attempted, as yet, to work out or assign definitely the spaces for each department, we have contemplated devoting the eastern building to the scientific departments and the western building to the Supreme Court, legal and related departments, while twenty-four legislative committee rooms are provided in each building.

Practically the entire first floor of the eastern building would be devoted to the exhibit or museum of the Department of Agriculture, Commerce and Industries, the third floor, attic and basement to laboratories and storage rooms for this department, and the State Board of Health. On the second floor there will be twenty-nine offices for the Department of Agriculture, Commerce and Industries, the State Board of Health, the Railroad Commission and a future Highway Commission.

The western building will have its entire third floor devoted to the Supreme Court and library. The first and second stories will have forty-eight offices for the Superintendent of Education, Board of Charities and Corrections, Tax Commission, Insurance Commission, Historical Commission, Bank Examiner, etc., which leaves thirty or forty offices unassigned or for future expansion.

6th. The State House is of the very highest class of design, detail, material and workmanship, and to harmonize with it, the

new buildings must be of corresponding design and detail, of the same costly material, and of approximately as fine workmanship. It can readily be seen that these conditions, together with the increased size and plan and increased story heights referred to under Section 3, will involve a very much greater cost than would be necessary on any other lot.

7th. While the project is yet in too indefinite a shape to permit of an accurate or reliable estimate, we have gone into sufficient detail to ascertain that each building will cost at least \$600,000.00. Unless the State is willing to undertake an expenditure of a million and a quarter dollars, we would strongly advise against building on these grounds.

8th. A modern fireproof building of the same class as others in Columbia, 60x150, ten stories high, can be built for \$450,000.00, and a suitable lot can probably be had on the corner of Gervais and Main streets for about \$125,000.00, and the corner of Gervais and Assembly for half that sum, or an inside lot opposite the Capitol may be had for \$50,000.00 or less.

The total investment for such a building and lot will be well within \$600,000.00, and it will provide as much and as good accommodations at half the cost as two buildings on the State House grounds. It will also be quite as convenient for all of the State's business, except, perhaps, the legislative committee rooms, and for these, there will be no serious inconvenience.

9th. It will require at least nine months to prepare the plans and specifications for any one of these buildings, three months to negotiate a contract, and at least two years to complete the building. An appropriation of \$25,000.00 will be ample for the first year, and the bulk of the cost can be covered in the next three years' appropriations, or a contract can doubtless be negotiated which will spread the payments over five or more years.

Respectfully submitted.

EXHIBIT D.

COL. WATSON'S STATEMENT.

For years the State of South Carolina has felt more and more acutely the need of office space for the growing public business, The State House accommodates only a small fraction of the State offices, and these are overcrowded and inadequate.

The Supreme Court is cramped and without necessary facilities, and its quarters are totally without that dignity and impressiveness which the character of its functions demands.

The building has only eight legislative committee rooms and proper public hearings and orderly considerations of important matters of legislation is impossible under present conditions.

The Department of Agriculture, Commerce and Industries has offices in the Union National Bank building, laboratories at the University, and its splendid museum inaccessibly stored partly at the State Fair grounds and partly in a private warehouse. The department is hampered in its work by being so widely scattered, is seriously cramped, both in offices and laboratories, and is using space sorely needed by the University.

The State Board of Health has offices in the Palmetto Building and laboratories at the University, and is laboring under the same handicaps as the Department of Agriculture.

The Railroad Commission rents offices in the Union National Bank building and is cramped for space.

The Department of Education has offices in the National Loan and Exchange Bank building, while the High School Inspector and Supervisor of Rural Schools are poorly housed at an old building at the University.

The State Board of Charities and Corrections, the Insurance Department, the Tax Commission and the Chief Game Warden are located in the Palmetto building. The Warehouse Commissioner and Bank Examiner are without offices, and there is no available space for a State Highway Commission or other offices which are likely to be created in the near future.

In short, the State's business is now scattered all over the city to the great inconvenience, both of the officials and the public, and the office rentals, amounting to more than \$10,000 a year, which the State is now paying, will go a long way towards meeting the carrying charges of its own buildings.

A Supreme Court building has been agitated for more than a decade, and is universally recognized as a necessity.

In 1914 studies were made for a building to accommodate the Department of Agriculture, Commerce and Industries, but when reported, it was thought best to enlarge the scheme and provide for all other departments at the same time. Accordingly, in 1915, new studies were made for a single building to be located on the University property on Main street, between College and Green, and providing for all State offices and departments.

When this plan was reported to the General Assembly at its last session, a commission was appointed, consisting of Messrs.

J. M. Nickles and T. M. Ketchin from the Senate, and J. A. Berry and J. B. Wingard from the House, and directed to make a thorough study of the matter and report back with recommendations at the next session.

This Commission, after several meetings and a thorough consideration of the problem in all its phases, had tentatively decided, on the recommendation of the architects, to report a project providing for two buildings on the State House grounds. The architects' report states: "After very careful consideration we are of the opinion that adequate accommodations to meet all present and reasonable future needs can be had on the Capitol grounds, and that such development will not detract from the dignity or beauty of the State House, provided two buildings are erected, one on either side, so as to preserve symmetry and balance, and provided further, that these buildings are of the size and character in scale and harmony with the State House."

The plan follows this recommendation, and provides an L-shaped building on either side, placed on the longitudinal axis of the State House, and with the centers of the facades on Sumter and Assembly streets on the centers of the blocks.

The buildings will be of granite and of the same general character and design as the State House, with corresponding story heights and cornice line.

The first floor of the eastern, or Sumter street building, will be devoted to the museum of the Department of Agriculture, Commerce and Industries, and the second and third stories will be devoted to offices and laboratories of this and other scientific departments.

The western, or Assembly street building, will have its entire third story devoted to the Supreme Court and its library, and the first and second floors to offices.

There will be twenty-four legislative committee rooms in each building.

A perspective view and block plan of the group is published herewith.

The architects making the earlier studies and advising this commission are Wilson & Sompayrac, of Columbia. Mr. Wilson has studied the problem very thoroughly and with profound reverence for the genius of Major Niernsee, the original designer of the State House, and with all possible regard for the preservation of the dignity and beauty of the building and its setting.

DRAINAGE AND ROADS.

The Commissioner regrets to report that there is utter absence of proper interest in the vast possibilities for good which the State would enjoy if the land owners would become more interested in the great question of drainage. It appears to the Commissioner that more work was done this year in the hill counties of York and Anderson, although there are hundreds of thousands of acres in the coastal plain that could be reclaimed by drainage.

In Anderson County there has been increased interest on account of the Rocky River project started in 1914, and pushed to completion over many difficulties in court and otherwise. It is alleged that the cumbersome Act under which drainage projects are now carried forward is one reason why there is not more progress in this line. For that reason the Commissioner has been interested to learn of the new drainage Act which will be offered to the Legislature.

The Commissioner understands that it has the endorsement or approval of financial concerns to which it has been submitted for examination, and they say that they are willing to lend money for developments under the proposed Act. This will obviate any objection that might be raised. It is true that the existing law has been approved, as to its constitutionality, but it would require very little time to have a new law given a test by the Supreme Court. The Commissioner urges the legislature to enact this legislation and to take any other steps necessary to promote the salvaging of the waste lands of the State.

In Anderson County very good results have been obtained by straightening the course of streams and deepening the channels. Hundreds of acres have been reclaimed in this manner and the cost of the drainage will not approximate one-tenth of the added value of the lands.

There are other Piedmont counties that well might emulate the example of Anderson in drainage, as well as in road building and in terracing and farming hillsides. This county is now engaged in good roads projects that ultimately will represent an outlay of two million dollars, I am told.



PUMPING PLANT AT COMBAHEE, RECLAIMING OLD RICE FIELD.



**RECLAIMED RICE LAND, DRAINED, TILED AND SWEETENED WITH SUNLIGHT
AND AIR. NO FINER LAND IN THE WORLD.**

SOME DRAINAGE FACTS.

BY F. G. EASON, DRAINAGE ENGINEER WITH McCRADY BROS. & CHEVES, CHARLESTON, S. C.

Why do the neighboring States of North Carolina, Georgia and Florida make so much more progress in drainage and road building than we do in South Carolina? Think well and then try to answer this question to your own satisfaction and to that of your conscience. Is it because the people of South Carolina hang on to the old traditions more than their neighbors, or its because they are close-fisted, or is it due to the reason that they are justly naturally unprogressive? This article is not intended as a knock to anyone, but rather to set forth a few cold facts in an endeavor to try and open the eyes of the people so that they will make a greater effort to get these much needed public improvements.

The opinion of the writer is that all three of the reasons just mentioned are more or less responsible for the backward position of South Carolina in these matters. It is a fact that many people in this State do hang on to the old established traditions and customs much more than is good or necessary, and this one fact alone has much to do with the absence of a forward and progressive spirit. There is in evidence entirely too much of the attitude voiced by the "what was good enough for my fathers is good enough for me and my children" sentiment. It is *not* good enough. That is just the point. Self-satisfaction goes hand in hand with apathy and breeds stagnation. A nation or a people cannot stand still; it is against all laws of nature. They must either advance or go backward. Which way are we moving? This self-satisfied spirit must be broken. How? By a systematic campaign of general education and enlightenment along lines of drainage and road building.

Are we close-fisted? Yes. Everyone you see admits that drainage and roads are fine things, but if talk could drain lands and build roads, we would have every mosquito run out of the State, the low-lands equal to those of the Fens of England or the Zuider Zee of Holland, and the whole State paved with a magnificent system of permanent highways of stone and concrete. But it takes more than talk. It takes money; real American dollars, which the landowners have got to go down in their pockets and dig for. The time has come to quit spending half of our time

talking politics and the other half talking about getting drainage and roads, but to put up some real money and go to work. It takes money and plenty of it to construct public works in these times. Just remember that; it takes money; not talk or the few paltry dollars collected as taxes for road work and scattered over the whole county. Give the supervisor some money to work with; don't cuss him because he can't build new roads and bridges and maintain the old ones decently with a few convicts and a few dollars. Wake up and give him something to work with.

Many of us assume an attitude of watchful waiting, wondering when the government will come down and drain our lands and build our roads. They irrigated the West and they should drain the South. The Lord helps those that help themselves. When we wake up and show some desire to co-operate, then will the government begin to figure on doing work of this kind in the South. We must first show a willingness to lead the way.

When we look at what our neighbors are doing along these lines and then at what we *might* be doing, but what we actually *are* doing, we must admit that we are unprogressive or that something very serious is the matter with us. Now is the time to go to work to correct these faults so that the State of South Carolina will keep abreast of the times. Let us set such a pace that instead of looking to our sister States for advice and inspiration, they will turn to us for progressive ideas and say, "Look at what South Carolina is doing."

It is not to be inferred from what has been written that nothing has been done along these lines. Far from it, but the amount that has been done is so insignificant that it amounts to hardly more than a good start and is far below what has and is being done in our sister States. We are not yet even out of the woods. But half of the battle is in the start; this has been made, so let us carry on the good work and do something to make our country better to live in and our people more contented and prosperous.

The drainage laws of South Carolina, North Carolina and Georgia are almost identical in their construction and application. They all call for the creation of drainage districts and an issue of bonds to pay for the work, raised by a special assessment against the lands affected. The two States just mentioned have formed and carried to a successful conclusion scores of drainage districts. The case is not so in South Carolina, where only seven drainage districts have been completed or are now under construc-

tion. Any number of districts have been proposed and started, but they all progress to a certain point and then either die from lack of interest or are killed by an overzealous opposition.

The following table shows the drainage districts in South Carolina that have either been successfully completed or are now under construction. It does not include any districts that are proposed or on which construction has not been commenced.

Name of District	County	No. of	
		Acres	Cost
Rocky River Drainage District.	Anderson	800	\$ 20,000
Rum Neck Drainage District...	Orangeburg	2,300	5,000
Eighteen Mile Creek Dr. Dist...	Anderson	1,430	33,000.
Six & Twenty Mile Cr. Dr. Dist.	Anderson	*1,500	*40,000
Turkey Creek Drainage Dist....	York	1,100	*50,000
Cowcastle Swamp Dr. Dist....	Orangeburg	42,350	175,000
Clarendon County Dr. Dist. 3...	Clarendon	10,000	32,000
Totals		59,480	\$355,000

*Estimated.

It will be seen from this that something over one-third of a million dollars' worth of work has either been completed or is now under construction at an average cost of about \$6 per acre. All of these drainage districts were formed and operated under the South Carolina Drainage Law enacted by the Legislature. The workings of this law are a bit cumbersome in some respects and it is hoped to have some much needed amendments passed at the next session of the Legislature. To this end, a movement is already on foot to get together the various engineers and attorneys who are interested in drainage work in South Carolina, with a view to discussing and drafting the needed amendments, or to disregarding the existing drainage law entirely and substituting therefor a new and simpler drainage law which is now being drafted.

There is a large amount of drainage work proposed in South Carolina, some of which was begun several years ago and is now lying dormant, and some which is now only starting. The surveys have been completed in a large majority of cases and all that is now needed is a strong leader to revive the movement, and

start them on their way to a successful culmination. Under this class there are about 220,000 acres, the estimated cost of draining which is about \$800,000.

There has been in the last few years a decided movement toward the reclamation and utilization of abandoned rice field lands in the coastal section of South Carolina. Three large projects of this kind are now under construction at Yemassee, Whitehall and Rantowles, respectively, all of which are nearing completion. These total in area about 4,000 acres, of which amount about 1,500 acres are now thoroughly drained and under cultivation to highland crops. It is indeed interesting to watch the transformation of these old abandoned lands from wet bogs covered with water twice every 24 hours to fields of growing corn and cotton. The fertility of these old rice lands is unquestioned, and yields of two bales of cotton per acre without any fertilizer are not unusual. When the real value of these lands is fully realized and the ease with which they lend themselves to proper drainage is understood, there will no doubt be a great amount of development along these lines. There is no better field known in this country for the investor in cheap lands; but at the same time lands that are capable of a high degree of development. Lack of advertising is assigned as the reason for the inactivity along development lines in respect to these lands.

Under-drainage, effected by the utilization of tile, has perhaps suffered more during the war than any other branch of drainage. This is due to the scarcity of labor and the high cost of drain tile; this class of work being almost entirely dependent upon an adequate supply of local labor, unless ditching machines are employed on the work. Matters in this respect have adjusted themselves somewhat and a return to using tile upon a large scale is confidently expected. The use of tile drains had become fairly extensive over the State prior to the war and many carloads were being installed each year. There are few farmers in the State of South Carolina who are not able to tile drain at least one acre, or a part thereof. It is urged that each farmer who has any land that is ordinarily or frequently too wet for best cultivation, experiment with tile drains upon one acre. If he is not satisfied with the results obtained, or with the beneficial changes in the soil, or with increased crop yields, no great loss is incurred. But if he is satisfied (and it is rare that he will not be), he can go ahead and do more work along this line.



**GOVERNOR D. C. HEYWARD'S COMBAHEE PLANTATION.
DREDGE BUILDING LEVEE.**



**BY SUCH WORK AS THIS THERE MAY BE SAVED FROM WASTE HUNDREDS
OF THOUSANDS OF ACRES OF THE RICHEST LAND IN AMERICA.**

There are in the State of South Carolina about 3,200,000 acres of wet or swamp lands. It is high time that steps were taken to bring about the systematic reclamation of these lands. They will pay a handsome dividend on the money invested to both the State and the landowners. That is the main point. It will pay to drain these lands. If people were asked to undertake the venture from purely patriotic motives the case would be different, but it will put dollars in your pocket. Think it over.

SUCCESSFUL FARMING IN LOWER SOUTH CAROLINA

(BY JAS. HENRY RICE, JR.)

An account of the rise of modern farming in the coastal belt of South Carolina would not be intelligible without an understanding of the conditions. It may well be asked why this region, settled two hundred and fifty years ago and, prior to 1860, the wealthiest farming region of all America, should have dropped dead, so to speak, for nearly fifty years succeeding the War Between the States. The question is entirely legitimate and must be answered. The usual explanation, namely, that the war was the cause of the stagnation, does not seem clear to a man in the Middle West, the far West or the Rocky Mountain States, since those States have grown into wealth and power since that time, and it would seem that two generations would suffice for repairing any amount of damage caused by war.

The peculiar conditions surrounding the South Carolina coast with its situation contain the explanation.

From a point forty miles north of Georgetown, where the river system of the State centers, large plantations extended without a break to the Georgia line. These plantations were operated by slave labor before the war, the crops being rice, cotton and corn, principally.

At the end of the war an immense region was left in chaos. The white population of the coast was always small, and now that the negroes were freed, a half dozen white families, each family being distant from five to ten miles, or thereabout, lived in a region inhabited by thousands of negroes. To make matters worse, adventurers from the North, with scalawags at home, kept stirring the negroes up to mischief. Life and property became insecure everywhere. There are many plantations on the coast held

now by descendants of men who simply grabbed them after the war.

The result was that white people generally abandoned the rural districts, but still owned the land. In the course of time many of these lands were sold to turpentine men and lumbermen; others went to hunting clubs. Of agriculture almost none existed, for rice planting, depending on hand labor, was long moribund, and at length died a natural death. And there are not five thousand acres planted to rice in the whole State, whereas I can recall a hundred thousand acres in a single county. The industry died because hand labor could not compete with machinery on the farm, any more than it can anywhere else.

It must be understood that the rice plantations were formerly cypress swamps, which lay below river level. Hence it was easy to irrigate them by gravity. The word used, however, was to flow them—a pretty word describing the process exactly, as it meant to cover gently. Most of the upland was unopened and thought to be sterile; it was generally referred to as “barrens.”

Add to the above explanation the custom of the planters to leave their plantations in early May each year and not to return until after frost. They had come to think the region deadly to health, because of malaria, miasma and other scare-heads of a past age. An idea like this, once fixed in the minds of a small rural community, dies hard. The coast never had as much malaria, even before the war, as the upper counties of the State; but this belief in the unhealthfulness of the region was general. The rural death rate in 1880 was only 14 per thousand. (See census, 1880.)

Owing to the conditions described, settlement was slow, almost none at all. The middle and upper counties of the State became populous, wealthy and cultured.

A change was brought by some Northwestern people coming into Horry County, the most northeasterly county in South Carolina, twenty-one years ago. These people, despite predictions to the contrary, made money, built up happy homes and were as healthy as they had ever been in their lives; a fact they have freely testified to. They began growing strawberries and blackberries. Tobacco culture followed.

Without exactly knowing what was to become of it, I made it my business to advertise this fact throughout the country. It was the first shock to an old system. Others were to follow.

How great a change was wrought by the advent of these people may be seen by a brief survey of the facts.

Horry County, the largest county in South Carolina, was one of the most backward in the South. In more than sixteen square mile of area there was one brick building, one drug store, twelve buggies, one small bank, one dead county newspaper, one mixed freight and passenger train daily. In short, not to prolong the list of shortcomings, the region was primitive. The habits of the people were similar to those of the Middle West seventy-five years ago. The trade of the entire county, consisting of naval stores, fish and logs principally, amounted to \$700,000 a year.

Within five years the trade volume passed the \$8,000,000 mark, and ten years later, it was well above twelve million. Better than this, new schools sprang up everywhere. The county twice took the graded school prize for the State and once the Sunday school prize, awarded for the best graded school and Sunday school, respectively. One year (1904) this county, without any agriculture to speak of six years before, took first prize at the State Fair for the best agricultural exhibit from any county. The county is filled with good roads, making automobiling pleasant; Conway, the county seat, has grown from a cross-roads settlement of 400 people into a modern town, with electric lights, paved streets, waterworks and so on, with a population of over five thousand, and has just begun to grow. It has one of the best public school buildings in the South, a number of banks, two progressive newspapers, new public buildings of all sorts and scores of handsome modern residences.

It is a commentary on this that the richest of all the antebellum planters, dying there during the war of tuberculosis, made his wife promise him that she would not venture down the river with his body, so fearful was he of the fever that lurked in the swamps!

Such an example was bound to have imitators. What was being done in Horry, of which the merest outline is here given, aroused activity in adjoining counties. Williamsburg, Marion, Dillon, Florence and other counties, awoke to strenuous effort and soon the new order was everywhere, ousting the old.

Strange to say, the most notable outcome was felt in Beaufort County, in the extreme southeastern corner of the State, nearly two hundred miles from Conway.

Here physical conditions are absolutely different. Horry County is cut in half, practically, by the great Waccamaw river, which runs roughly parallel with the sea coast. On every side it is bounded by fresh water rivers. Beaufort County, on the contrary, is made up almost entirely of a series of islands, cut off by salt water rivers. On the main island, Port Royal Island, Beaufort and Port Royal are situated. Horry had few slaves before the war. Most of the people were poor, albeit independent, straightforward and kindly. Beaufort was one of the largest slave holding counties, the home of a rich and proud aristocracy. The planters had an acquaintance throughout the world. Owing to the impossibility of defending it because of the great number of open waterways, the Confederate government abandoned it early in the war, and it became Union headquarters until the close of hostilities and long after. Thousands of acres of land were confiscated and given in fee to negroes, many of whose descendants still own it. Nothing but hope, which seems to be the imperishable possession of coast towns throughout the world, kept the town alive. It had no industries and apparently no future. For a generation it was represented in Congress by negroes and negro representatives were sent to the State Legislature. Its fine historic plantations sank into ruin.

Then the lane had its turning. The Democracy of the State gerrymanded the district and ousted the negro Congressman, and, almost at the same time, the white people got possession of local politics.

Fifteen years ago truck growing began. Of its rise and success I shall give a few pertinent facts, because they are among the most remarkable in the country.

I was in Beaufort at that time and this incident took place, curious in the light of after events. A gentleman whom I knew came into town, evidently gratified at something, and took me aside to tell me of his good luck. He had sold some land—"absolutely worthless land," he said. The price paid was \$7.00 an acre. Last year the man who bought that land, Capt. P. L. Lea, refused a cash offer of \$700 an acre for it!

An explanation will show why. Indeed there are many explanations, but one will suffice to show. For many years that land has turned in from a 20-acre plat, from \$500 to \$1,000 an acre from lettuce. Among the first comers were Messrs. Frederic and Harry Whipple, natives of Rhode Island, who had come

South seeking health. They tried growing radishes on thirty-six acres, followed by beets and cucumbers. The crop netted ten thousand dollars. They have done much better since, of which mention will be made, but this first step woke up things. Next a saw mill man, Mr. C. E. McLeod, took a plunge growing lettuce. He knew nothing about its culture and according to all the rules he should have failed, as he planted ten acres—quite a bit of lettuce. However, it was fated that he was not to fail. He made \$6,000 clean money on the ten acres. That fact fixed the lettuce industry for Port Royal Island. This was in 1906.

Five years later two truckers, Whipple Bros. and C. U. V. Benton, put in overhead waterworks for irrigating lettuce. It was a tremendous success. The Whipples sold \$27,500.00 worth off of six acres. Benton sold \$42,000 worth off twenty acres, followed this with cucumbers and sold \$10,000 worth of them. He realized a profit of over \$40,000 in less than six months. The cucumber crop was followed by corn and peas, a heavy yield being made, but no account was kept.

A young Florida trucker, E. E. Mountford, who had been vainly battling against odds around Miami, came up, got a start from his father-in-law in March, put in fifteen acres of tomatoes, and reaped a profit of over \$7,000. He then planted lettuce successfully for many years and has recently sold his place for a fortune.

Capt. John W. Varn, who went broke planting cotton and had to make a fresh start, succeeded in getting twenty acres under pipe, and from this he made an independent fortune within twelve years.

William Keyserling, a Russian Jew, came to Beaufort with nothing within twenty years. Now he is worth conservatively two and one-half million dollars, a great deal of which has been made trucking, but not all, as he runs a large mercantile business as well.

Mr. W. R. Eve, Jr., bought a place in January with the lettuce set out. There were twenty acres planted. The lettuce crop sold for thirty-five thousand dollars profit—enough to pay for the place, which was bought for \$30,000, and leave a profit. It should be stated that the place was bought far below its value, owing to the fact that its owner, an old man, had to retire from business.

Among the many cases of success that might be cited in this belt is that of J. W. Gray. This is remarkable enough, considered from any point of view, but most remarkable from the fact that Gray began with nothing at all. Here was his situation. He had been a tenant in Barnwell County, growing cotton. The year before he went to Beaufort all he made failed to meet his rent by seventeen cents. He bundled up what he had in a one-horse wagon, the horse being a small "marsh-tackey." A land owner in Beaufort allowed him to take up some land and gave him a small vacant house to live in. For two years it was a grim battle against odds—a fight for himself, three small children and a wife. He barely existed. His trial was more grievous because his health had been bad from his youth and he was impressed with the belief that he was incurable. After two years, however, hard as they were, dawn broke. He was able to farm a little better. Within the next three years he bought and paid for the place, three hundred acres in all. In the past six years he has made a fortune. His experience last year is illuminating. This is taken from his statement to the government. On eighteen acres of lettuce he cleared \$18,000; on forty acres of potatoes he cleared \$4,000; and on this same land he made, picked and ginned 81 500-weight bales of cotton, worth about \$150.00 a bale. He had also from the cotton forty tons of seed, worth \$56 a ton.

Besides this, on other land, he made a splendid corn crop; he always makes a big corn crop, and plenty of forage. He sold sixty to seventy hogs, some of which went 600 pounds on the hoof.

Mr. Gray has bought a handsome home in the mountains for a summer residence for his family, has educated his two daughters, and has his son, a youth of fifteen, at school. I do not know a case in the United States where a man, similarly situated, has done so well as Jack Gray has.

It may be asked how he lived meantime, in the lean, hard years. Well, Beaufort is a bountiful county. Its numerous rivers teem with choice fish, easy to get. Anybody can catch fish ordinarily in half an hour to do a family for a week. Oysters, clams, shrimp, prawn and terrapin are likewise abundant. Vegetables of all kinds and most fruits are easy to grow. Poultry thrives, as do milch cattle. With energy and judgment, a man can live like a king on Port Royal Island, or anywhere else in this part of South Carolina. An acre in sugar cane, an inexpensive crop,

will furnish syrup for the winter. Sweet potatoes make large yields and the quality is prime. The living question is a minor one here.

Five acres in live oaks will fatten all the hogs a man needs for home use. Sometimes a tree will yield a hundred bushels of acorns, sweet and wholesome. All animals love them, and will pass other acorns by, so long as they can get them. Wampee grows in all low places, and its root is a fine hog feed. The more hogs eat it, the more it grows. Some roots, large and fleshy, weigh four to five pounds. Its constituents are about the same as those of the sweet potato. There is no end of hog feed, growing wild, and all the corn required is merely ten to fourteen days to round hogs off.

Every practical trucker knows that these people have had problems and still have them. The business is being studied all the time, and methods of growing, packing and shipping improved.

The importance of livestock has been felt from the first and is being more and more attended to. Silos have gone up all over the region and modern pastures are being made. Nearly all the pasture grasses and clover thrive here. A mixture of Bermuda grass and burr clover makes a fine permanent pasture, good for a generation, but not hard to get rid of should the land be needed for cultivation.

The plant industry in this corner of South Carolina is one of the largest in the world. From a single belt there are more than a half billion cabbage plants shipped annually. Millions of other plants, tomatoes, beets, onions, cauliflower, pepper, etc., are also shipped. Sometimes a day's shipment will be distributed to every State in the Union.

The region enjoys advantages for the production of plants that will be hard to overcome. Plants, grown in the open air of this seacoast, come early, are hardy, and will mature faster than any hot-house plants. Tomato plants, for example, when properly grown here, will fruit a month earlier than the best hot house plants, and last longer.

Vast as the plant industry is, it is only in its infancy, just as trucking is in its infancy. Thirty years ago planters had chills when another man began growing truck. Today there are individuals who grow more truck than the whole State did thirty years ago, and prices continue good. Of late years, of course,

they have been very high. Still, the net profit of the grower is greater than before.

The climate of the whole coast is superb. In summer it is delightfully cool, with constant breezes blowing from the ocean. In winter it resembles Florida. The lower coast, from the mouth of the Edisto river to the Savannah, has almost identically the climate of Florida as far south as Miami. The soil is much richer than the Florida soil. The reason is that all of South Carolina, from the mouth of Santee river to the Savannah, and a hundred miles back, was filled up by rivers, which in past geological ages, washed down fertilizing matter from the mountains and the hills. This process is still going on. In other words, it is a vast river delta, with millions of acres of fertile land, deep, loamy, charged with vegetable matter. From the dawn of history river deltas have been the granaries of the world. Mesopotamia, the Ganges and the Yangtze fed Asia. The delta of the Nile fed North Africa and the shores of the Mediterranean. These soils have been made through aeons by the slow, perfect processes of nature. Hence their fertility.

COW CASTLE DRAINAGE DISTRICT.

It is learned with pleasure that an extensive drainage proposition in lower Orangeburg is again receiving attention. The war took away many of our most useful men, among them Col. J. Monroe Johnson, commanding the Engineers of the Rainbow Division. Since his return, as I learn in a statement from L. S. Wolfe, of Orangeburg, the drainage proposition referred to is again to be taken up.

"During the summer of 1914 the United States government made a survey of the Cow Castle Drainage District, in the southeastern section of Orangeburg County, and recommended that great benefit would accrue were these lands drained," says Mr. Wolfe. "Soon after this a drainage commission was formed with William C. Wolfe as attorney, Major J. M. Johnson as engineer and J. D. Shuler and W. H. Patrick as the board of viewers. These gentlemen, with a number of other interested citizens of that section, started the ball to rolling in the formation of the drainage district. The surveys of the district were made by J. M. Johnson and C. P. Roberts, of Marion. In due



RICE FIELD DRAINAGE WHEN NEGLECTED.



REAL DRAINAGE IN ANDERSON COUNTY.

course of time the district was completely formed and forty-three thousand acres of the finest land in Orangeburg County will be drained by a large canal about fifteen miles long, and a number of laterals to be built that will enter the main canal. The bonds in the amount of \$175,000 have already been issued and sold for this work.

"The benefits that will be received from this work are several. The removal of the water is a most effective weapon against the curse of our coast country—malaria. It is impossible to estimate in terms of money the benefits that will accrue to the Cow Castle country from a health standpoint."

I feel quite sure that when this big project is put over successfully it will lead to many other developments in South Carolina.

GOOD ROADS ARE COMING.

Five years ago there was scarcely a mile of what could be truthfully called improved highway in South Carolina. At that time, however, the sentiment in some sections of the State was fast developing for "good roads." A few counties put on bond issues for road building about that time and several counties used their convict forces to grade and clay short sections of road.

South Carolina was at that time commonly considered as one of the most backward States in the matter of improved roads.

Then the Federal government, in 1916, enacted what is known as the Federal Aid Law appropriating eighty-five millions of dollars for highway construction throughout the United States. Of this huge sum (as we then thought it), ten millions were specifically set aside for roads in the National Forests, and the remaining seventy-five millions prorated among the States.

It was stipulated in the Federal Aid Act that these funds should be disbursed through State Highway departments and not through local county, district or township units. The funds could become available to a State or community only after the proper surveys, plans and estimates had been made and approved by the officials constituting the State highway department.

The South Carolina Legislature convened soon after the enactment of the Federal Aid Act, and at once took steps to secure the State's portion of these funds. A number of men informed on such matters prepared a bill creating a State Highway De-

partment that would meet the requirements of the Federal government. The main idea of the General Assembly seems to have been to create a commission of competent men which should be clear of politics.

Soon after the organization of the Highway Department the trouble with Mexico called away the State Highway Engineer, one member of the commission and a number of the employees who belonged to the National Guard. Immediately following their return from Texas they were mobilized to go to France. Thus the work of the department was seriously hampered at the very beginning.

As soon as the United States was thoroughly into the war the shipment of highway and bridge construction materials was practically prohibited, so that highway work was almost at a standstill.

During this period, however, the following projects were surveyed and plans for their construction were prepared: Road from Columbia to Camp Jackson, road from Spartanburg by Camp Wadsworth toward Greenville, road from Southern railway crossing through Camp Sevier to Greer, road from Rock Hill toward new bridge over Catawba river, road and bridge from Cheraw to Thompson's creek, road and eleven bridges through Pee Dee Swamp at Galivant's Ferry, road from Conway to Galivant's Ferry, road from South Edisto river to Salkehatchie river via Bamberg, road from Little Mountain to Newberry, road from Chester to York County line, bridge over Broad river at Lockhart, road from McCormick to Abbeville County line, concrete bridge in McCormick County, resurfacing Rocmac road in Greenville County, three concrete bridges in Calhoun County, road between Greenwood and Hodges, road and bridge at Cook's Mill between Lancaster and Chesterfield Counties, road and bridges between Gaffney and Spartanburg County line, road and bridges between Edgefield and Greenwood County line.

Owing to the scarcity of labor and difficulty of securing materials work was begun before the signing of the armistice on only the following projects: Road from Columbia to Camp Jackson, road from Spartanburg to Camp Wadsworth, road through Camp Sevier, road at Rock Hill. These roads are all hard surfaced roads except the part of the Greenville-Greer road north of Camp Sevier, which is of top-soil.

Since the close of the war many additional counties have applied for Federal aid in amounts varying from \$3,000 to \$155,448.17. There have been approved to December 31, 1919, by the State Highway Commission projects calling for the payment to the State of Federal aid to the amount of \$2,353,491.37, of which \$246,024.08 has been paid to counties. Requests have been received from and projects approved for forty-two counties, leaving only four counties for which no Federal aid has been asked. Of these counties, twenty-seven have applied for aid on two or more projects.

Surveys have been completed in forty counties, totaling to December 31 about 635 miles. These surveys are scattered from the coast to the mountains of Pickens and Oconee Counties and involve roads from plain earth to asphaltic concrete and bridges from timber pile trestle to reinforced concrete. The mileage covered by these surveys is approximately one-fifth of the total State highway system outlined by the Highway Commission.

Contracts have been let for about 190 miles of road and bridges at a total estimated cost of \$1,687,409.85, of which \$802,823.62 will be paid by Federal aid funds.

Grading has been completed on about 103.0 miles and surfacing on about 83.0 miles of these contracts. At the present rate of increase in construction, the whole mileage of the State highway system would be under construction within two years.

In addition to the Federal aid work described above many of the counties are doing a large amount of road construction with county or township funds. Some of the roads are of local importance which will serve as connections and feeders to the State highways.

These local roads will give to people off the State highway system access thereto so that with the addition of each new mile of road construction of the State system becomes of greater importance to a greater number of people. And by the time the main highways of the State system are completed the greater part of the intervening territory will be so traversed with improved roads that the citizen can reach an improved highway within a few minutes travel if he is not actually situated on one.

All of the funds expended by the State Highway Department are used on the State highway system only. This system comprises about 3,000 miles of the most important roads in the State.

DIVERSIFICATION.

I can add nothing to embellish the remarkable statement immediately following, although I consider it very conservative. W. R. Eve, Jr., who is one of the truck growers who have "struck gold" in Beaufort County in the last six years, was asked by me for a statement of the opportunities in his county. Here is what he writes:

"As a practical truck planter of Beaufort County, South Carolina, the writer has been asked for a few plain facts regarding the planting industry in this famous vegetable section, where the world's record on money crops per acre has been broken. *Two crops grown and shipped from the same land in five months have sold for more than six thousand dollars per acre.*

"It is not unusual for lettuce, which is ready for the market *in sixty days after setting out, to sell for \$2,000 per acre.* This can be followed by two or three other crops on the same ground within the year.

"Irish potatoes yield as much as *one hundred and forty barrels per acre*, and early potatoes sometimes sell as high as *ten and eleven dollars per barrel.*

"Crops grow all the year round unprotected.

"Delightful climate, winter and summer.

"Good hunting. Deer and quail. Also fish and oysters plentiful.

"The right kind of newcomers always receive a hearty welcome.

"It will give the writer pleasure to furnish you with any further information that you may desire."

It's paradise, in Beaufort. Following is a statement from Capt. W. H. Hull, secretary and treasurer of the Beaufort Truck Growers' Association:

"The truck growing industry of Beaufort County for the season of 1919 has not enjoyed the same degree of prosperity that most agricultural ventures seem to have done elsewhere.

"The very early season during January and February promised a most satisfactory outlook and the lettuce and celery crops of Florida were marketed under the most favorable conditions of any in their history. By the time the season had advanced to the period when the crops from the Beaufort section were moving conditions had undergone a decided change for the worse.

"The lettuce crop proved to be not particularly fine in quality. The smaller crops of early vegetables (such as peas, beans, beets, etc.) had not been planted in sufficient quantities to make carload shipments practicable. Cabbage made good returns where the quality was up to the standard, but following the unsatisfactory experience of the last several years the acreage in cabbage had been very much reduced. Those who made good cabbage made good money on the crop.

"The out-turn of the potato crop, however, was a decided disappointment. To begin with at the time for planting there came a deluge of rain. Such seed as had not germinated when it came were badly rotted, requiring replanting over a great percentage of the land. Much of the land was so water soaked that in spots it was not practicable to go into the fields and replant for several weeks. This threw the crop back where it had not been planted at all previous to the rains and made it very uneven in maturing where planting and partial germination had taken place.

"About the last of May or the first of June the rains came again just when the harvest had begun and this caused the potatoes to reach market in unsatisfactory condition. Complaints of condition became so frequent it was necessary to make adjustments on nearly every car sold. In addition to these troubles the strikes on the river front at New York threw a great quantity of potatoes, which in the normal course of trade would have found an outlet at that market, into the other markets, and prices soon became demoralized from congestion on the smaller markets.

"The last of the crop from the Beaufort section was sold at much less than it cost to make potatoes here. Usually some cotton has been planted by the truck farmers in order to keep their labor occupied and to hold it together during the off season, but this year the boll weevil had destroyed the cotton and there is not even that to fall back on now.

"But we have a very intelligent and a very persevering group of farmers in this industry. They have to be, for the best prospects in the world may be blighted in a night at this business, and

if a man is easily discouraged or stakes all of his resources and all of his credit on a single venture he had better keep out of it and play some other game not so hazardous (and where the stake played for is not so alluring).

"That the industry, in a broad sense, is prosperous is sufficiently proven by the evidences of progress and prosperity. Since the abandonment of phosphate mining Beaufort County has had no other industry than that of agriculture and its related activities, such as a box and crate factory—an ice manufacturing plant—a saw mill or two and the necessary number of cotton gins to take care of the crop. Yet today there are more stores and more retail business done (not alone in the town of Beaufort, but in the county also,) than ever in its history.

"The two banks located here are in a flourishing condition and their resources are continually mounting upward. Many improvements of a public character have been completed within the past four or five years and the trucking industry has borne the burden of it all, since that, and a little cotton has been the source from which the revenue was derived to pay for it.

"The farmers of the Beaufort section are quick to adopt any new methods that commend themselves as progressive, and hardly a farm in the trucking industry but is equipped with a motor truck and most of them have at one time or another in recent years tried out some traction motor for plowing and other heavy work. Nothing has so far been found, however, to supplant the mule, and since it is necessary to have him for some class of work the mule will probably continue to serve as the chief motive power for all work except long distance hauling.

"Within the town of Beaufort is a first-class graded school employing a dozen or more teachers. Fifteen years ago the school principal and three assistants comprised the staff, and the enrollment is about three times as many as then. The children from farms ten miles distant attend school here and are brought to and from school in motor trucks at the public expense. More perfect drainage of the land and the use of artesian water has made it healthful to live on the farms all of the year, whereas twenty years ago such a proposition would have been regarded as suicide in a less violent form.

"But the truck growers—while highly specialized farmers are finding out from experience that a gamble with fertilizer and the weather as the two main factors in making a crop, is an

unnecessary risk, and so are turning to live stock to give stability to the venture. They are learning that the best results can be realized, with less cost, in maintaining a more balanced system and so are keeping live stock to provide the necessary compost and to consume much of the farm produce which otherwise would go to waste. This is merely a broadening of their activities and does not in any sense imply a lessening of their interest in truck growing.

"The outlook for the season ahead was never brighter and preparations are rapidly taking shape to increase the acreage for 1920 in nearly all crops over the acreage of 1919. The boll weevil has improved the labor situation and the prospects seem to justify the belief that he who has something fresh and palatable to offer to the consuming public before the season of harvest comes near the large centers of population will reap a fair return for his labor and his risks. In climate Beaufort has an advantage over most sections that cannot be overcome and her soil is equal to the best that comes in competition."

CROP AVERAGES.

A report issued July 10 by B. B. Hare, South Carolina Field Agent of United States Bureau of Crop Estimates, shows an increase of 4 per cent. of corn acreage in South Carolina over that of last year, the estimated acreage being 2,340,000 acres.

The acreage in Irish potatoes shows a reduction of 5 per cent. as compared with last year, while the acreage of sweet potatoes remains the same. Condition of the former 85 per cent. and the latter 90 per cent. of normal.

Acreage in tobacco has increased from 86,400 acres in 1918 to 112,000 in 1919. Condition on July 1 reported at 85 per cent. of normal, equivalent to an average yield of 765 pounds per acre.

Acreage in peanuts has been reduced 10 per cent. as compared with last year, and a 5 per cent. reduction in acreage of sorghum cane (for syrup) is noted. Condition of both is 88 per cent. of normal.

The apple and peach crops are both reported at 48 per cent. or 2 per cent. less than one-half of a normal crop.

The condition of other crops is as follows: Rice, 88 per cent. of normal; wheat, 75; oats, 80; rye, 86; hay, 84; alfalfa, 85; millet, 85; cowpeas, 85; tomatoes, 85; cabbages, 85; onions, 86; grapes, 80; pears, 58; watermelons, 80; cantaloupes and muskmelons, 78.

CROP YIELDS IN 1919.

There was an increase in the acreage of corn in 1919, the estimate being 2,340,000 acres against 2,270,000 in 1918 and 2,313,000 in 1917. The value of the crop was \$36,169,000 in 1916; \$84,378,000 in 1917; \$72,101,000 in 1918, and \$73,757,000 in 1919, estimated.

The acreage in wheat fell off considerably, the estimated yield for 1919 being \$1,836,000 bushels against 3,376,000 in 1918 and 1,869,000 in 1919. The reports are that the sowing of wheat in the fall of 1919 was very light and our 1920 crop will be disappointingly small.

There was an increase in the production of oats in 1919. The yield was 11,730,000 bushels; in 1918, 11,000,000 and in 1917 it was 6,000,000 bushels.

The production of tobacco was 81,000,000 pounds in 1919; and in 1918, 60,410,000 pounds.

The ten-year average of sweet potatoes was 5,244,000 bushels; the 1919 production was 7,560,000; and in 1918 was 8,064,000.

The ten-year average of Irish potatoes was 820,000 bushels; in 1919 it was 2,295,000 bushels and in 1918 it was 1,722,000 bushels.

The acreage in hay showed an increase from 260,000 to 285,000, and the production in 1919 was 269,000 tons against 286,000 tons last year.

TOBACCO.

The growing of tobacco in South Carolina has become more than an experiment or a pastime. When the late Capt. F. W. Dawson started this new form of industry through the efforts of the Charleston News and Courier, of which he was the brilliant editor, it might have seemed as stupendous a task as today faces us in finding a substitute agriculture for cotton in the boll weevil ridden section. However, tobacco is now a staple crop, and will remain so if the farmers will organize to look after their own marketing interests. During the first year of the European war the tobacco growing industry in South Carolina received a great set back on account of the miserable prices paid. Gradually the prices have advanced and production has been extended. In 1919 the value of the tobacco crop in South Carolina will approximate \$25,000,000. Perhaps this exceeds the fondest hopes of Captain Dawson himself, but the Commissioner believes and hopes that

we have seen but a begining of even greater success for the tobacco growers.

In 1918 every grade of tobacco grown in South Carolina brought excellent and even astonishing prices. Even "sand lugs" sold famously, for it was declared that this grade, usually considered refuse, would find a ready sale in Central European countries on account of the scarcity of tobacco there.

But early in the season of 1919 the price for the lower grades of tobacco fell away. The Commissioner was appealed to and called a meeting which was held at Florence and was attended by 100 tobacco growers representing Florence, Berkeley, Charleston, Richland, Marion, Sumter, Darlington, Lee, Dillon and Horry counties. This convention went on record as disapproving the methods of tobacco buyers. The meeting was addressed by United States Senators Smith and Dial and by Congressman Lever. The Commissioner was unable to attend on account of other duties, but sent a message stating that such an organization to be effective must have the understanding, co-operation, and support of tobacco growers in North Carolina, Virginia and other States. After this meeting the farmers received prices which seemed to please them more and the Commissioner heard no more complaints. However, he wishes to take this occasion to warn the tobacco farmers not to go to sleep. Their organization was caused by necessity and was based upon good business principles. It should be revived, enlarged and strengthened to meet the coming year. Such an association could serve the double purpose of educating its members to better methods of curing their tobacco as well as to form a protection in selling.

The better grades of tobacco brought very fancy prices. It was only the prices paid for the poorer grades that caused any complaint and the argument of the buyers was that Europe was stocked up on the cheaper grades from the 1918 crop.

SOUTH CAROLINA POTATO CROP.

While the Irish potato crop is a considerable factor in the wealth of our State, it does not occupy the position of importance which it deserves. The normal annual income is about \$5,000,000, while the value of the tobacco crop is about \$18,000,000 per annum, and cotton about \$200,000,000.

Arthur W. Rolfe, of the Federal Bureau of Market Surveys, makes a full report upon the potato crop movement from this

State. He says that 70 per cent. of the crop was sold in New York and Philadelphia. The South Carolina crop fills a hiatus between the Florida crop and the Wilmington and Norfolk crops. When the shipments were light the South Carolina crop brought \$10.00 to \$10.50 a barrel, on June 2nd. The arrival of the South Carolina stock increased rapidly and the prices fell to \$5.50 to \$6.00 a barrel by the 12th of June. On June 2nd, 42 cars were shipped from Charleston County and 512 cars on June 14th. On that date there was a drop of \$1.00 a barrel from the day before. At the close of the season the New York market suffered from a strike of the truck drivers. The season in Philadelphia, Pittsburgh and Baltimore did not show the sudden drop in prices that were felt in New York, but there was a gradual and steady decline.

"The South Carolina season was very unusual in many ways," says Mr. Rolfe. "In the first place the heavy rains during the month of February made it necessary to replant about three-fourths of the potato crop in March and some fields were planted as late as the first week in April. In ordinary seasons the potatoes are generally in the ground by the middle of February, so this meant a month's delay in starting. The whole month of April was unusually dry and rain of any value did not come until the middle of May. This also tended to hold back the maturing of the potatoes. Some of the early stock that was shipped was found to be small and immature.

"Under these conditions it was impossible to make any heavy shipments during the time when light shipments were coming from competing sections. The early stock brought the high prices even in cases where it was found to be slightly immature. This stock was what had survived the wet weather of February. But the heavy movement from the fields that were replanted did not begin until June 6th. By that time North Carolina was well under way with 53 cars and even the eastern shore of Virginia shipped out 37 cars on that day.

"The acreage planted in South Carolina was much smaller than that for the previous year, which accounts for the comparatively light shipments for the entire season. According to the Bureau of Crop Estimates, in their estimate of June 1, 1919, the acreage for South Carolina was 7,880 acres compared with 15,960 for the year of 1918. The carlot shipments to June 30, 1919, were 1,161 cars compared with 2,813 cars for the season of 1918."

PECANS A PAYING INVESTMENT.

I cannot understand why there are not more pecan orchards in South Carolina. The quality of the nuts produced on some of the farms in this State is of the very highest, and the prices range from 40 cents to \$1.00 a pound. I don't think there is much possibility of planting too many. In another chapter in this report I invite attention to an article on pecans by Dr. S. J. Summers of Cameron, former State senator from Calhoun. What he has done others can do. There is such a thing as overdoing, but Dr. Summers has used the common sense way.

I am in receipt of a letter from A. Caswell Ellis, president of the Texas Nut Growers' Association, in which he says: "There is no doubt that demands of economy and health will some day make the nut industry of equal importance with animal husbandry as a means of feeding our nation. In my own State are 2,000,000 native trees, by government reports. I think really there are ten million and room for twenty million more to be planted in overflow creek and river bottoms. With a little application of science and energy, our country could soon produce a billion dollar nut crop on untillable hillsides, roadsides and overflow valleys."

PECAN GROWING EDUCATED HIS CHILDREN.

"When a boy," says Dr. S. J. Summers of Cameron, "I noticed several pecan trees in this community and was impressed with their size and symmetry. These trees appeared to be healthy and the idea struck me that the soil and climate were suitable or the trees would not thrive so well. In 1892 I began practicing medicine and seeing these trees on my 'rounds' decided that I would get some good seed and plant, using them for shade trees about the home that was built for my life partner. Nine trees were set out in the yard and made rapid growth. In five to seven years they began bearing, first only a few nuts and gradually increasing until they produced an average of a barrel full each when my home was destroyed by fire and the damage to trees so great that I removed all but three. These are growing well again after being severely cut back in order to produce symmetry. One of these trees produced over five pounds of nuts this year.

"When these trees began growing the pecan fever struck me. That was about twenty-five years ago and I have had all kinds of aches and chills, also some very pleasant experiences since

then. I planted several pounds of the best nuts I could get from Mrs. Stuart, Ocean Springs, Miss., and when large enough began a grove. The land was well plowed, good holes dug and the trees set about 50 feet apart. The little fellows looked so lonely that after several years I set extra trees in each square, and right here I made a serious mistake. Another grove just a year or two younger, the trees were placed 40 feet apart.

"Different crops were planted in these groves, such as corn and cotton, and the ground well cultivated. I would warn the hands about not bruising the trees when plowing and generally watch closely in order to protect them. An ordinary hand with a mule and plow can destroy a grove of young trees just a little quicker than a herd of goats and this is going some. One of the greatest troubles we have to contend with is to keep from bruising the trees when plowing, and it is absolutely necessary to cultivate often and clean for the pecans will not thrive with grass or weeds growing around them. Even a large tree will soon begin to deteriorate if these pests are allowed to grow. A crop each year well fertilized will keep your trees in good condition and insure an average crop.

"Well, when these young trees began to grow my neighbors thought they had a great joke on me and wanted to know what I was planting trees on my best land for. I told them I expected to educate my children from the income of these trees, for my family was growing very nearly as fast as the trees. This amused the neighbors so much that they considered this the best joke on me yet. Time passed on. The trees began to bear, sales increased until—well, the boys just wanted every old pecan sprout that would volunteer on my place. And these young trees which volunteered are now bearing and making good for my neighbors.

"My crop this year was over 4,500 pounds and were sold at an average of 50 cents per pound. We pay 2 cents per pound to have them gathered and the children make a neat little sum at it. My good wife has taken charge of the sales department and enjoys as well as makes a success of it.

"My two groves consist of seeding trees with a few exceptions. They are hardy, prolific and produce large, fine nuts. However, I advise using huddled trees as they come into bearing earlier and you know just what kind of nut to expect. Am using huddling from a seedling tree known as the 'Summers.' This is a medium sized nut, very thin shell, extra good cracker, and a

flavor that I consider the best in the pecan family. This has been verified by experts and I hope in a few years to have a nice lot of these nuts on the market.

"The pecan industry is not only interesting but one of the most profitable when properly handled. Our soil and climate are ideal and the flavor of the nuts unsurpassed. The man who has a small grove of good ones has an annual income that means much, especially during this period of H. C. L. and the boll weevil invasion. I want, however, to warn those who expect to try a few trees, or a large grove, that there are some facts absolutely necessary to consider and follow or they will make a failure. Get good trees, cultivate clean, fertilize, and watch your plow hand and do not let trees be bruised, place young trees at least 60 feet apart, keep borers out and caterpillars off and burn all twigs that are cut off by the beetle. Follow these rules and the pecan will pay well for all expenses incurred. Unless one is willing to give time and care to the trees would advise him not to plant. On the other hand, any one who has a home and yard should use the pecan as a shade tree. They are beautiful during the summer with their dark green foliage, perfectly bare during the winter which allows the sunshine to come in and when old enough furnish the best of nuts for family use.

"For commercial purposes there is little or no prospect of over-supplying the market. The increase in consumption is great, and the better they are known the greater will be the demand. Some will succeed in growing them, but many will fail for the simple reason that they will not follow the simple but exacting rules laid down above."

WOOL, SILK, TEA.

Before the outbreak of hostilities the United States was importing about half of the wool annually used and was shipping in 2 per cent. of the mutton. The latest available figures show that the domestic production has increased very little, while our population has grown. Hence conditions appear promising for the expansion of our sheep growing.

A cable of September 2nd from Yokahama reported that an advance of 30 yen (dollars) in the silk market. The price of silk fabrics has advanced tremendously. Therefore I repeat the advice to the farmers of this State to consider silk worm culture.

One of the most interesting things in agriculture in South Carolina in recent years is the tea farm near Summerville. While this was more or less of a fad of the late Dr. Shepard, yet it proved that tea can be grown successfully in South Carolina. The flora is elegant. Incidentally, Sir Thomas Lipton, the great tea merchant of the world, spent a part of his youth in Charleston. There might be a future for this industry in South Carolina.

SILK CULTURE.

South Carolina offers a great opportunity for the production of silk. The drawback in the past has been the need of a market, but I believe that I can find a market if the people will undertake it.

In 1914 an Armenian merchant, A. K. Ossigian, came to South Carolina and was prospecting here to engage in silk culture. The gentleman in the City of Anderson who agreed to provide a small mill building met with an accident which resulted in his death and the enterprise fell through.

In the spring of this year I met Mr. Ossigian in New Orleans. He had prospered greatly in the intervening years, having located his silk worms on a plantation in Texas. The war had caused a great advance in the price of silk and he had found ready sale for all that he could produce. He was in New Orleans for the purpose of locating a silk mill there, and this he did subsequently, the capitalization being half a million dollars. He assured me that he would be glad to come back to South Carolina at any time and get a silk worm colony started here.

There are thousands of acres in South Carolina barren to everything else that would produce the kind of mulberry trees that silk worms require. The worms are kept upon trays, and all of the labor that is necessary is for children, before or after school hours, to pluck the mulberry leaves and lay them upon the trays in order that the worms might gather therefrom the fibre and spin it into cocoons. After the cocoons are made, they may be shipped to any silk mill in this country where they will command a handsome price, if the market remains as it is.

The Commissioner feels that there is a great opportunity for silk culture in South Carolina and urges it upon the people of the State. Parts of Abbeville and Anderson counties were settled by French people who included the marketing of silk cloth in their

other occupations. There is now in the possession of J. Bayliss Lewis of Anderson a piece of silk 125 years old, spun and woven at Varrenes, and experts have said that the silk fibres of the South are as beautiful and has as great tensile strength as any in the world.

CASTOR BEAN OIL.

During the war there was demand for the oil of the castor bean, said to be the only lubricant suitable for the high altitudes reached by aeroplanes. The castor bean can be grown readily and in profusion in lower Carolina, and there might be a market for the oil, as the aeroplane has entered commerce as well as war. Land that produces nominally an acre of cotton will produce 50 bushels of the beans. They require little labor in growing and harvesting.

SEA FOOD—AN OPPORTUNITY.

While the Commissioner was on a visit to Louisiana in connection with organizing the American Cotton Association, he learned with great interest that sea food is the largest and most important industry in that State, next to agriculture. It is not likely that our marine food industry could ever be developed as is the field in Louisiana, but certain it is that there is a great opportunity for wealth.

In one parish in Louisiana 1,000 motor crafts valued at \$750,000 are used in the sole occupation of harvesting and marketing shrimp, oysters and fish. The methods used in the culture of the oyster are interesting. Bedding grounds are leased from the State to grow the young oysters. These beds are solid bottoms in shallow lakes and bayous. The oyster shells, after having given up their oysters at the canneries, are hauled back in boats and scattered over the bedding grounds. Soon after the spawn of the mother oyster is deposited on these oyster shells or on any other hard surfaced object and the small oysters are thus formed. They grow very quickly on each oyster shell. After a time these old oyster shells loaded with young oysters are again fished out of the water and the young oysters are separated and again thrown on the bedding ground to grow, unhampered, to a marketable size. The process of planting is general in shallow bottoms and is very profitable.

Approximately \$30,000,000 is invested in the State of Mississippi and Louisiana in fisheries. The annual "crop" is valued at \$10,000,000. At present 35,000 persons are dependent upon this industry. The catch of shrimp alone is more than 23,000,000 pounds. The fresh water industry has also grown to great proportions. The catch of catfish alone was 16,224,197 pounds last year.

I give these figures for they may afford some encouragement to promote such an industry in this State. South Carolina may not have as prolific a field, but it is evident that it is more capable of developing than has yet been done.

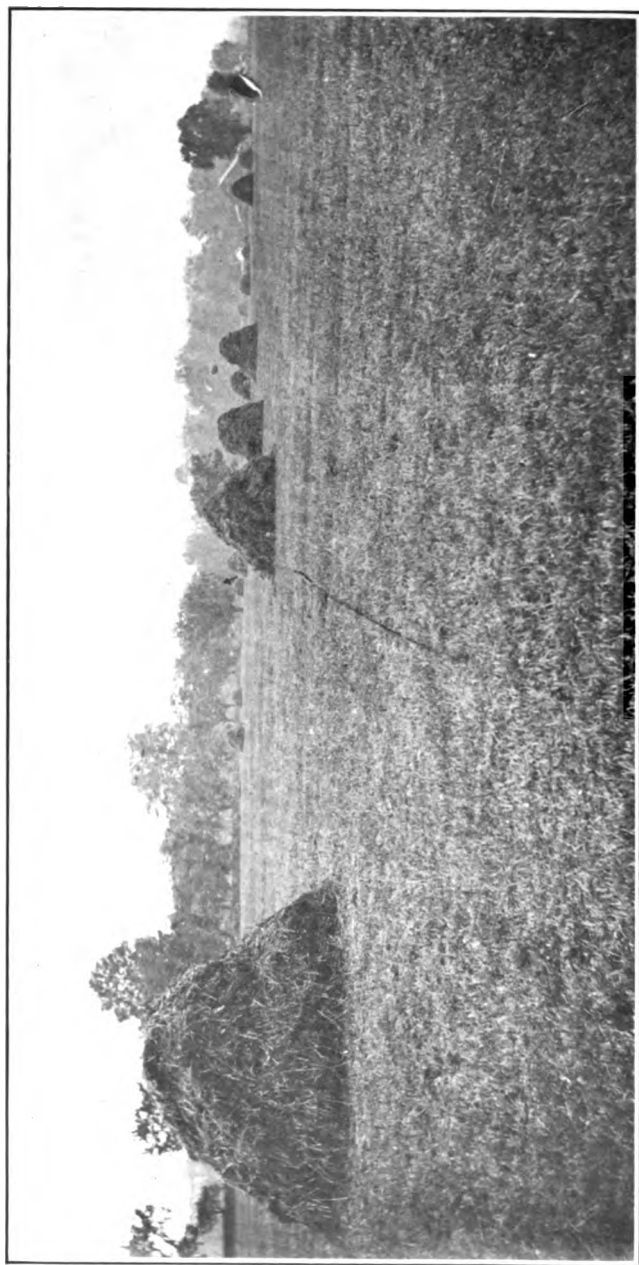
RICE INDUSTRY.

The world war has given the world a new cereal—rice. Not that it has not been eaten in China for centuries, and grown in South Carolina for a hundred years or more, but because for some reason or other millions of people had known of rice as only a concomitant for puddings, etc. But the war taught thousands to enjoy rice as a cereal.

Some 20 years ago the rice industry in South Carolina was ruined when planters in Texas and Louisiana learned how to grow it. But the extraordinary price that rice has been bringing and the increased consumption have caused a number of persons in this State to consider the revival of rice planting. This is a big game sport and not child's play. It can be made to produce wealth or it can under unfortunate circumstances sweep away a fortune over night. Further on in this report is an article from Capt. S. G. Stoney of Charleston, one of the "old school" rice planters. Former Governor D. C. Heyward and others think that rice planting in South Carolina can never be revived. However, there are some who appear ready to make a try at it.

DIVERSIFIED CROPS.

At the State Fair last year there was a most attractive exhibit by G. B. Wingard & Son, proprietors of the Diversified Farm of Lexington County. The display is remarkable because of the excellence as well as the variety of the exhibits. "The crops," says Mr. Wingard, "are grown for home use, for market and for animal food. All the different crops mentioned below can be grown on our place with profit if we have normal seasons:



SOUTH CAROLINA COULD BE A GREAT HAY PRODUCER.

"Corn, cotton, cowpeas, peavine hay, velvet beans, sorghum cane for syrup, sugar cane, oats, wheat, rye, sweet potatoes, Irish potatoes, fall crop beans, tomatoes, onions, beets, squash, cucumbers, artichoke, asparagus, watermelon, canteloupes, honey dew melons, pumpkins, kershowes, butter beans, cabbage, collards, calabash, turnips, okra, radish, apples, peaches, pears, pecans, plums, grapes, figs, scuppernongs, muscadines, and others which might be mentioned."

SOY BEANS AND PEA VINE HAY.

The soy beans and peavine crops in South Carolina were not as productive in 1919 as they were in 1918. Where these were harvested for seed, the prices obtained were very good. In a special seed report of the Federal Bureau of Markets, it is stated that the movement from the hands of the growers had been slow up to December 4th. The following statistics are given:

Soy beans—Acreage, compared with normal, 70 per cent.; 85 per cent. in 1918; yield per acre 83 per cent; in 1918 it was 88 per cent. Price offered, Nov. 27, 1919, \$4.50 per hundred pounds.

Cowpeas—Acreage, 96 per cent.; 95 per cent. in 1918; yield, 89 per cent.; 107 per cent. in 1918; yield, 490 pounds per acre; price, \$5.25 per 100 pounds.

COMMERCE AND INDUSTRIES.

DRIVING TO A PANIC.

Upon the threshold of a new year, I wish to voice a solemn warning to our people—"Go slow." That means to slow up in the expensive manner in which they are living, but not by any means to go slow in production of the necessities of life. I hardly regard cotton as such a necessity, and it should be planted sparingly next year. This is not guess work.

My observations are based upon watching the trend of affairs. In July, 1919, I expressed the belief that the world, and our own country, would in the next two years, experience the hardest time of all history. I have had some close students of world conditions to tell me that they considered that nothing short of a panic would shake down the people of this country, cause them to quit their extravagance and restore a semblance of normal. I have never been convinced that a panic is needed, but I am sure that one is coming, if we do not watch sharply.

Nothing has kept us out of financial panic, perhaps several of them, but the federal banking laws enacted since Mr. Wilson became President and the financial control of the country was taken from a few and was assumed by the government.

Yet—the government cannot forever keep the country out of a panic if the country persists in going in that direction. The government may fence in the excitable bull, but if the country climbs the fence into the pasture it may get hooked. Panic is but a kind of hysterics among the people. It may be from a real cause or imaginary. There may be no cause at all for a panic now, but I suspect certain interests of trying to produce a bogie man and to frighten our people into a state of hysteria which will produce a panic unless we are prepared to meet it.

Following a recent conference of bankers in Washington the statement was made by New York financial interests that "an era of tight money and probably high rates" had arrived. "Some institutions which have had modest amounts in the call market entirely withdrew their funds because of their belief that an era of contraction was in sight." The article from which the above quotations are taken goes on to say that rediscount rates will

have to be advanced and the financiers are concerned over the rates to be made effective.

Mr. W. G. P. Harding, Governor of the Federal Banking System, has made the statement that "non-essential loans should be discouraged and the rediscount facilities of the federal reserve banks ought not to be used for the sake of profits."

Mr. Harding is a friend of the cotton farmer of the South. One of the staunchest friends that we have, but the policy that he has outlined is fraught with the gravest danger to our cotton producers.

As I understand it the currency of the country has been inflated beyond the proper proportion of the gold reserve to give stability to that currency. This condition has been brought about by our people going too much into debt for luxuries and not paying for their Liberty Bonds. If the Federal Bank has to contract the credits and squeeze out some of the excess in order to stabilize the issue of currency, some of the member banks may have to call loans when they come due.

Now this may not cause a panic. There may be too much substantial prosperity in the country for a real panic to occur, but it appears to me that the safest thing for the South to do is to get back to high thinking and moderate living and let the rest of the country have the high living and low thinking. For the reason that the cotton crop is one that usually requires such heavy advances, I urge this as an additional reason why the cotton farmers should indeed go slow with their production in 1920. If they will raise corn and cane and hay and hogs and chickens and vegetables, they will not go hungry, and they will be so independent that if a period of financial depression comes along, and there are interests trying to make that very thing happen, the farmer can say "I am independent. They can't touch me."

I do not fear a panic. If it came it wouldn't last long. Commerce must go on. The cotton that is now being held in warehouses would be there subsequently, as long as the farmers can protect it, and the prices after any panic would have to respond to the law of supply and demand. If we do not plant much cotton in 1920 we will be masters of the cotton situation forever.

AFTER THE WAR.

The South has come through the war a metamorphosed section. Fifty years ago our people were strictly agricultural, and our one industry was cotton. Today there are many enterprises flourishing in the South, and in South Carolina corn and tobacco are nearly as valuable as cotton, and will become more so when cotton production is diminished.

In the enlarged trade and the expanding industrial structure of the South, there are greater exports through Southern ports. There are excellent facilities in the Southern ports, and a good depth of water. The maritime business of the South today is considerable, but nothing like what it will become.

New York has become entirely too congested for the shipping directed through that port, and Norfolk, Charleston, Savannah and numerous other Southern ports are getting the benefit of the diverted business. The government through the appeals of our Southern senators, allocated ships to Southern ports and Northern interests, then tried to buy the ships from the government. I am pleased to say that this effort did not succeed.

Columbia has been made the headquarters of this maritime corporation which is doing such great work for the South, and Chas. H. Barron of Columbia is the treasurer. I think that the people of South Carolina should realize and appreciate the great advantage that this undertaking is giving to the South, making us the means of communication between our great middle west and the South American states.

It was predicted that Southern cities near cantonments would suffer a collapse after the war, but this has not been true. There was high-pressure business, it is true, but the permanency of the wealth that was left is indisputable.

But where there is wealth there is also sloth, and the South is in danger of feeling too contented over its new-found condition of importance. South Carolina is but entering upon her greatest career if her people only would realize it, organize, co-operate, and work.

THE SOUTH'S GREAT CHANCE.

Their shelves are bare. Europe has nothing. Before the World War the balance of trade was against the United States. What a great change has taken place! Our imports from Europe for the first ten months of 1919 were \$542,800,000; our exports to

the same countries were \$4,265,826,000, an increase of \$160,000,000 during a year after fighting had ceased.

These figures stagger the comprehension. Yet they must have a meaning. What is it? The world wants to buy from America. We have become the world's greatest creditor.

Must the vicious circle continue? It appears to me, very clearly, that what we need is not shorter work days, and fewer. What we need is more production of the necessities. We may keep high wages, but let's have more work. We are fiddling while Rome burns. We are losing our greatest victory in this war—the victory of unselfishness. We cannot always have such a vast disparity in European trade in our favor, and if we do not produce the goods, we can't sell them.

FOREIGN FOOD DEMAND.

I wish to say to our people that if they do not grow something to eat in 1920 they will be the losers thereby—losers and perhaps sufferers. In the summer I urged the sowing of small grain. I fear the crop is entirely too small. I try not to give advice upon mere intuition, and I generally have the information for my own belief. In this matter I base my judgment upon a report upon the Agricultural Needs of Germany as reported to the British government by Dr. E. H. Starling. The very perfection of the social and economic organization in Germany proved her undoing, says Dr. Starling. No other nation could have thrown all of its resources into the firing line. But when the collapse did come, it was disaster universal in the empire. Therefore, Germany's failure was due in part to the failure of her food supplies.

Her factories are intact and her workmen are industrious, but the soil has been robbed of its strength to force crops and is in great need of the manures that had been obtained from concentrated feeds. Germany is overpopulated and the people must be fed. Therefore, I say that with shipping embargoes removed, there will be a great exportation of our 1920 cereal crops to Germany—and the Southern farmers who have not grown their own will pay the price of their stupidity.

IN A FOOL'S PARADISE?

One way of looking at it is to conclude that the reason for the high cost of living in this country is due to the fact that the demands upon America of a world trying to put itself back upon

a peace footing have been greater than the demands of the war itself. To my mind it is portentous that American exports in 1919 exceeded any previous year. The value of exports of merchandise for the first ten months of the war years were as follows:

1914.....	\$1,862,000,000	1917.....	\$5,146,000,000
1915.....	2,887,000,000	1918.....	5,963,000,000
1916.....	4,443,000,000	1919.....	6,501,000,000

Our exports have increased four fold in value and in tonnage. Our balance of trade in 1919 is four billion dollars. We have amassed in the war years \$11,530,000,000 balance in trade, whereas before the war the value of our imports exceeded that of our exports. The value of our imports from Europe this year was pitifully small, about \$700,000,000 against \$5,000,000 exports.

How does this affect South Carolina? In this way, Europe's reconstruction is advancing very slowly. It may be some time yet before American merchandise will be as greatly needed in Europe as today. Therefore the South must not be forced to compete with Europe as a buyer. Every dollar that we spend for non-essentials or for commodities that we should produce ourselves is weakening our cash, our resources, our credit to just that extent.

We do not know what is in the womb of time. Some monster may be produced—or yet Universal Peace may be born. But it seems to me that the birth pangs are on, and we must be patient. With the withdrawing from the purchasing ability of our people of many million dollars that will be fed to the boll weevil, the men of South Carolina will be in no position to compete with Europe in yet further boosting the price of the grain of the middle west, or the shoes of "down east", or the clothes of other States. To our great misfortune we have had none of these things being produced or producing in our State.

Therefore the rule of conduct for 1920 is strictest economy and closest observance of the laws of thrift. The upward turn of prices cannot be regarded as permanent, and the expansion of credit has been such that Europe may not be in financial condition during another year to more than pay for the necessities of life, and our Southern cotton in the fall of 1920 may not find an easy market because of the restriction of credit which we may

expect. J. A. Sullivan, President of the National City Bank, and other leading financiers of New York, are convinced that an adjustment to lower prices must come.

Therefore, the signs all indicate that our people must not be living in a fool's paradise, thinking that their unexampled prosperity will continue forever. Caution must be the watchword. I quote with approval this sentiment from Richard S. Hawes, President of the American Bankers' Association: "Unless the American people realize that their extravagances which now prevail must cease, and return to a fair-minded consideration of expenditures, no material reduction in the present high cost of living will be apparent. Thrift and saving should be encouraged."

WHY OUR PEOPLE ARE AMERICANS.

"Why the United States Will Not Go Bolshevik" is the caption of a very forceful article in the Baltimore Manufacturers Record, and there are startling figures presented to show that this is a country of homes and that the people will not have the homeless Russian serf's incentive. I have taken the statistics for South Carolina as given in this article. Without comparing them with other States the figures lose some of their force, but in every instance South Carolina is above the average and among the nation's leaders. Population, 1,515,400; families, 315,204; owning homes, 93,757; building and loan associations, 134; total membership, 13,500; assets, \$4,816,301; number of income tax payers, 22,321; amount, \$70,917,349; loans from Federal Farm Banks, 1,683; value, \$4,542,040; soldiers and sailors in the war, 54,284; number of accounts in national banks, 185,032; amount of deposits, \$66,863,000; automobiles, 55,492; average population per car, 30; average for United States, 16; number of farms, 176,434; value of property, \$392,128,314; value of crops (1918), \$446,313,000; life insurance in force, 442,352 policies; total in force, \$262,096,766.

RIVER NAVIGATION IS NEEDED.

No new railroads were built in South Carolina in 1919. One was surveyed from Hampton to St. George.

The only transportation project for 1920 that the commission has been apprised of is the proposed canal connecting the Santee and the Cooper Rivers and giving direct steamboat connection between Columbia and Charleston. The promoters of this plan

have a bill in Congress to permit them to use the excess water of the Santee River for this purpose, and they state that government engineers report that the canal will not adversely affect the flow of the river below the point of the canal's intake.

The proposed canal would not be near the old Santee canal which was operated profitably by private owners before the days of steam railways. This is a new project and incidental to promoting navigation is said to offer an opportunity to develop about 15,000 horsepower as there is quite a fall in the territory between the two rivers. This developed power might be used advantageously by Charleston in bringing new enterprises to the State. I am informed that if Congress permits the cutting of this canal—which would also greatly facilitate drainage and promote better health conditions—the company or another company would build a line of electric railway from Greenwood to Columbia, bringing to the latter city for distribution a large part of the product of the mills of the Piedmont.

With these facts before him, the Commissioner has urged our congressmen to see that the necessary authority is given. However, I wish to see the State surrender no rights in existing or potential power, and I think that when this company gets its State incorporation papers there should be a stipulation that any time the State of South Carolina wished to do so, she might buy the power plant at actual cost.

I know of nothing that would do more for South Carolina than the developing of her inland waterways. They are as little appreciated as the public highways have been.

USE THE WATER POWERS.

The necessity of making some use of every potential water power, no matter how insignificant apparently, is shown in a statement by Senator Jones of Oregon, who has a bill in Congress for water power conservation.

"The report of the Geological Survey shows that our consumption of coal for all purposes during the year 1913 was about 570,000,000 short tons, of which the railroads alone used about 20 per cent. This tremendous tonnage requires for mining and transportation the labor of 1,500,000 men and the use of over 1,000,000 freight cars and 40,000 locomotives. In addition to this the petroleum used in 1913 was equivalent to 24,000,000 tons of coal. Every water horsepower now going to waste which

could be economically substituted for fuel power would represent approximately $5\frac{1}{2}$ tons of coal per year, based on an average of 12 hours per day. The labor of one man is released for other uses every time 50 hydro-electric horsepower is developed, and every 150 water horsepower developed releases one freight car for other duty. To indicate what are the possibilities of conservation along this line we need merely to reflect upon the fact that the ultimate development of the 61,678,000 horsepower contained in the rivers and streams of the United States on the foregoing coal consumption basis of a 24-hour day is equivalent to the annual use of nearly 780,000,000 tons of coal—being a little more than the total amount of coal used in the United States—which at \$2 per ton represents an annual value of \$1,560,000,000. Of course this represents the maximum attainable development, which will not be approached for a long period, but it also represents the end which may finally be achieved.”

Until every locomotive in South Carolina is driven by electricity generated within the State, South Carolina will be falling down on her opportunities and her responsibilities.

SCARCITY OF GOOD DYES.

Dr. Chas. H. Herty, who has returned from a mission to Europe, where he was sent by President Wilson to study the dye situation, has returned to this country and has given out a statement in which he says that Germany “stands ready to seize again the dye trade of the world and to stifle American competition unless adequate legislation is passed.” If the United States makes more dye, better dye and cheaper dye, I don’t see how the American industry can suffer. Germany is not bewailing her fate in not having enough coal to keep her people warm. If it requires any amount of coal to make these synthetic dyes, it will be impossible for Germany to compete. France has taken a large part of the coal fields that Germany sought and some that Germany had. Dr. Herty tells of visiting the great plant at Badische, where he saw Director Krell who made the statement that “we (Germany) are going to get back our old business in America.” I fear that this is another bogie man that is being used to make the American people stand for the high cost of living and to cause the American people to abuse the poor farmer because the price of cotton goods is going up.

CHARLESTON AS A PORT.

The November report of the exchange of commerce between the United States and Latin America is very interesting. It shows that in ten months the imports from Central America were \$39,500,000 against \$34,000,000 for the same period in 1917; from South America, \$549,700,000 against \$512,500,000 during the same 10 months in 1917.

The exports to Central America for 10 months of 1919 increased from \$43,000,000 in 1917 to \$44,500,000 in 1919. To South America, \$245,760,000 in 1917; \$377,050,000 in 1919. This shows a marked increase in our sales to Latin America, a matter of \$160,000,000 a year, at this rate.

Southern ports are showing the benefits of this increase in trade. Through our own port, Charleston, was handled in the ten months \$5,134,858 in exports in 1919 and \$1,079,600 in ten months of 1917. However, this figure seems pitiful in comparison with the export figures for the following Southern ports for the ten months: Gulf Coast, \$908,786,065, increased from \$542,575,205 for corresponding period in 1917; Savannah, \$181,312,475 in 1919 and \$86,585,194 in 1917; Wilmington, \$4,011,000 in 1917 and \$16,660,018 in 1919; Norfolk, \$115,767,317 in 1917 and \$132,205,116 in 1919.

SMALL HYDRO-ELECTRIC PLANTS.

During the closing months of the year we have read of the vast extent of suffering caused by the strike of coal miners. There have been many suggestions as to remedies for the future. Some say government control of coal, oil and timber. The South has been particularly fortunate in a mild winter, up to the 31st of December, and we are not so dependent for coal except for industrial purposes.

Yet, when I think of it, where is the necessity of South Carolina having to buy any coal? There is enough electric power in South Carolina, developed and yet going to waste, to keep our industries going and to keep our people warm. Our people have been proud of the great exploits in hydro-electric power plants, but I believe that the time has come when we should give more attention to the possibilities of small power sites. If individuals or local corporations are unable to capitalize them, I think they are holding the rights to the injury of the State, just as owners of large, idle, landed estates are not desirable citizens. There-

fore, I think the General Assembly should direct the Public Service Commission or some other branch of the government to investigate, see what water powers, large and small, are capable of development and recommend to the General Assembly some way to finance the proposition in connection with the owners of the property.

I am glad to see the Public Service Commission endeavoring to regulate the rates of light and power. There should be no waste power in this State when coal is needed by others not so fortunate as ourselves. If the Public Service Commission can find a way to inaugurate throughout the cities of the State a four-cent rate for electricity for cooking and heating purposes, no greater boon could be conferred upon the citizens. It would spare coal to be used by others and it would make domestic conditions in this State much easier and better.

STATE WAREHOUSES BETTER.

The Union Cotton Warehouse Organization Corporation came into existence in 1919. The president of this concern is Rufus B. Wilson, Secretary of the National Association of Cotton Manufacturers and Secretary of the World's Cotton Conference. On the face of it this is a very liberal opportunity for the farmer, but there are also dangers for the producer. These dangers may be eliminated by legislation which I will suggest presently.

Among the South Carolinians mentioned among the corporators of this company are C. L. Cobb of Rock Hill; W. S. Griffin, Greenville; John A. Law, Spartanburg; W. Gordon McCabe, Jr., Charleston; E. G. Seibels and T. B. Stackhouse, Columbia. It is claimed that there will be but two warehouses in the North, one at Providence, the other at Albany, N. Y. Also a plant at Norfolk; then several small ones in North Carolina; and the plants at Rock Hill, Spartanburg and Greenville will be taken over. Here is what Mr. Wilson himself says of the South Carolina units:

"At Charleston and Columbia, S. C., are the compresses and warehouse plants of W. Gordon McCabe & Company. These will be taken into the Union Warehouse and Compress Company scheme of development, enlarged, standardized, and brought up to a storage capacity of 50,000 and 20,000 bales in the two cities respectively. At Columbia, also is the principal warehouse of the Standard Warehouse Company, which will be taken over.

"At Spartanburg and Greenville, South Carolina, the plants of Cooper and Griffin will be absorbed and extended. The storage capacity will be 40,000 bales at Greenville and 30,000 at Spartanburg.

"The Rock Hill, South Carolina, Warehouse will be purchased and extended to a capacity of 20,000 bales."

It will readily be seen from this that very little is proposed, except a consolidation of existing concerns into one vast corporation. What is true with reference to units in this State is general of the whole South where the corporation purposes to take over and manage plants now in existence.

"Without the co-operation of the producer of cotton," says Mr. Wilson, "the chain of warehouses under consideration could never be a success." It must rely upon the grower to use a large percentage of the storage place it proposes to make available." Such being Mr. Wilson's expressed belief, it is hoped that he will not deviate from that idea. I agree with him thoroughly that cotton warehousing and cotton financing go hand in hand. I quote again from Mr. Wilson:

"It is the purpose of the Union Warehouse and Compress Company to immediately organize the Union Discount Corporation. This corporation will be created for the purpose of buying and selling cotton acceptance paper, thus creating a broad demand for paper whose market, under present conditions, is largely restricted to the locality where it originates. It is proposed to distribute the stock of the discount corporation widely among banking interests, in the cotton belt and in the North.

"Under the dual system of warehousing and financing cotton several notable things will be accomplished, making for improved conditions in the cotton trade and the stabilization of cotton prices. The farmer will be benefited by being able to carry his cotton over a longer period. The grower or shipper, when storing cotton in a bonded warehouse, will obtain a receipt which will be excellent collateral in case it is desired to hold the cotton for a better market. Such a receipt being negotiable and guaranteeing weight, can be converted into cash at any time, or in any place. Spot cotton can be dealt in between persons entirely unknown to each other and rejections will cease. The producer will have everything to gain and nothing to lose by the proposed system. The spinner will likewise benefit, his chief gain being the large supplies of cotton assembled at concentration points,

thus insuring him against a scarcity of raw material due to seasonal transportation difficulties and other obstacles. Last but not least bankers will be supplied with a large amount of the most liquid and highest grade paper, acceptance and cotton.

"Cotton men are nearly unanimous in saying that with the development of the plans of the warehouse and discount corporations a revolution will be effected in the handling of cotton. Under the plan outlined it is believed that the necessity for crowding the handling season into three or four short months will be overcome; that a period of twelve months may easily be taken in the operation, thus making for more economical work. It is believed, as well, that the inauguration of the dual system of warehousing and financing through cotton acceptance paper will be a godsend to the small banks of the South, with whom it is always difficult to meet the quick requirements of the short moving season."

This benevolent plan of the Union Warehouse Corporation will meet with instant and pronounced endorsement by the farmers if two things are guaranteed, and so sure am I that they will be acceptable to Mr. Wilson that I am presuming upon his accepting and I will present to the General Assembly a Bill embodying these two points.

1. When a producer stores with a warehouse a certain lot of cotton, that cotton is to remain his until called for or until disposed of with his knowledge and consent.

2. That when a producer in the early fall obtains a loan for ninety days or six months upon cotton in storage, the loan will not be called but may be extended upon maturity, if the collateral has a value in excess of the market price of the cotton on date of maturity of first loan.

The reason for such legislation is obvious and needs no argument, but I will state briefly what I mean. If Mr. Wilson could give personal supervision to every warehouse, there might be no difficulty, but in such a big enterprise as this it would be possible for his agents to take cotton out of the warehouse and let mills spin it up at the low price that usually prevails early in the fall. Subsequently the mill could say they needed no cotton, the price would be depressed and the owner of the cotton in desperation would say, "Sell it, let me get rid of it." The need for the second item is also apparent. Mills cannot hobble along on short rations of cotton through the fall and then as the loans

upon stored cotton come due, the financial interests which own the mills could come down upon Mr. Wilson and force him to call the paper and take the cotton which would be bought then at sacrifice prices.

While I recognize that Mr. Wilson's intentions are of the best, yet I must say that his system could be used by one less friendly than himself to ruin the cotton farmers. Therefore I think that the real remedy for the warehousing of cotton is the State Warehouse System. If South Carolina could put in each county large bonded warehouses for the handling of tobacco, potatoes, peanuts, cotton and any other commodities, the security of this State would be insured for centuries. I fear that our people are not advanced enough in economics to accept such a theory, and presuming that they are not, I say that the next best thing is to regulate private ownership in such a way that the producer cannot be induced by false hopes to put his entire prosperity into the keeping of an institution which itself is subject to change of ownership.

EUROPE WILL BUY COTTON.

Credits or no credits, the general belief now is that shipments to Europe will continue. The descending tendency of foreign exchange has been used as a trick card to keep down the price of cotton, but New York cotton merchants are now beginning to admit that the shipments are going on steadily, there being 300,000 bales en route on the 1st of January.

The domestic mills may not be able to use as much cotton in the near months of 1920, because of labor scarcity, alleged, and the shortening of the work day, but foreign mills are making up for that. In fact one New York commission man who is widely known comes out in a frank statement and says that cotton at the beginning of the year occupies the strongest position it has ever held. "I can figure nothing but higher prices ahead," says the man. He called attention to these outstanding features—the wide margin of profit enjoyed by domestic mills and their generally strong position; the prosperous condition of producers and factors in the South, enabling them to hold for higher prices; the relative scarcity of the higher grades of cotton. "There is everything to indicate that the position of cotton is exceptionally strong," he said, "and virtually nothing of a definite nature pointing to the contrary. I have the utmost confidence that the

export business will continue large no matter what happens to the foreign exchange market or for what levels the producers hold. The whole world needs cotton goods and they will pay the price."

Now, this is something I had been telling our people for months, although not in quite the same manner. I have long thought that there was a world famine of cotton goods, and the trade papers are now admitting it.

One writer has said, rather ungraciously I am quite sure, "The prosperity of the South has also operated in the direction of higher prices. The cotton farmer has made money as never before out of his cotton during the last couple of years and is so placed now that he can hold it until satisfied that the price is right. His recent experience is regarded as having educated him to a point where he will never entirely return to his old slipshod method of doing business. It is to this rather than to the various propaganda which has appeared from time to time during the year, designed to encourage reduction in acreage planted, withholding from the market, and construction of warehouses to give him control of storage rather than the Northern mills, that the holding of cotton is attributed. He knows that he has a product which the whole world needs, and he is prepared to take advantage of position, it is said."

Now, I would like to inquire why is it that the farmer "knows he has a product which the whole world needs"? It is because of the "propaganda" which this writer sneers even while he is admitting the success of the very forces that have been at work to wake up the farmer.

NO FALL IN PRICES.

Royal Meeker, commissioner of price statistics, who has been studying the situation, says there is no prospect of any considerable fall in prices.

"The normal seasonal drop in prices may be expected in 1920," Mr. Meeker continued. "In normal times the low price level for all commodities combined comes in March, April or May. These seasonal price changes are relatively small and will have but little effect upon the housewives' expenditures. No great and sudden fall in prices seems possible for a long time.

"Production should be speeded up to the limit and debts should be paid not with more debts but with economic goods and ser-

vices. These processes should be set in motion without delay. It will require several years to readjust industry and trade on a firm basis again. In the meantime, the United States Government should, in my judgment, join with the other leading governments of the world in the creation of an international commission to study ways and means of setting up a true and relatively constant standard of value to displace the present monetary units which are merely units of weight and consequently variable in value, or purchasing power. The most important constructive work that can be done in any field is the establishment of a stable standard of value so that all the people, rich and poor, employer and employee, bondholder and stockholder, may be spared for all time the agonies of changing price levels."

ORGIE OF STOCK GAMBLING.

There has been a saturnalia of cotton stock buying in South Carolina in the last twelve months. Where it will end—I do not know. The principal activities center in Greenville, where there is a regular textile stock exchange. There has been tremendous excitement at times as certain stocks have come out from a dormant obscurity and for a time have bounded upward with the buoyancy of oil well stocks in the Wichita Falls sector. Many Greenville citizens have "cleaned up" on mill stocks this year. The contagion has spread and citizens of other communities have dabbled in stocks, and usually at a profit.

I have an idea what the ultimate residue will be. Some day, how soon or how long deferred it will be, I cannot tell, the Southern cotton mills will be Southern as regards location only. Their owners will be commission men in the North and East who are using the stock exchange method to get the stocks where they want them.

I fear that everything will sooner or later gravitate too much toward a common center. It appears to me that interests in the East wish to control the mills in the South. And similar convolutions of stock operations are going on in England.

It is doubtful whether the cotton trade of this country has yet fully realized the extent and character of the changes which have occurred in the Manchester mill situation since the end of the war.

Up to the present time something like 115 mills have changed hands, and the idea appears to have been a concentration of man-

agements in the interest of economy and efficiency. Naturally this involves the question of raw material, and it is stated that the combinations who are now so largely in control of the industry will urge upon the British Government the desirability of extending, so far as possible, the growing of cotton within the Empire and that they will co-operate in such efforts financially and otherwise. Failing progress in that direction, it is said, the Lancashire combinations are likely to buy American plantations and attempt to grow their own cotton.

Lord Fairfax, chairman of the Amalgamated Cotton Mills Trust of Great Britain, says:

"I should like to say that the shelves of the world are still almost bare of cotton goods. During the war the output has been very seriously reduced. The consumption has been very great, and now, owing to the reduced working hours in the cotton trade, the production cannot meet the demand, and I am, therefore, of the opinion that trade should be quite good for a long time to come."

These may be matters which may appear to have no place properly in my report, but as I consider these matters of such grave moment, and as I have access to publications which the legislators have not, I deem it to be my duty to inform them of the situation as I view it. We must keep the South for the South, and the South for the Anglo Saxon. Up to now the South is the best part of the world, but we must not let the world come in and take charge of the South because of its superlative attractiveness.

"The great increase in dry goods brokerage has made speculation easier. The buying of mills by commission houses or their friends has assured the permanency of a sound method of assisting production and distribution," says a writer in a trade journal, and he lets the cat out of the bag.

In regard to the speculation in cotton mill stocks, I will let the story be told to the General Assembly by the New York Journal of Commerce, which in a recent issue thus describes the situation:

"As far as the actual trading is concerned, the center of the greatest activity in this line has been at Greenville, S. C. Previous to the last dividend period in July stocks in the mills in that section began to boom, and there was a rush to buy. Speculative trading became greater and greater, and the fever spread

to all kinds and conditions of people. New brokerage houses sprang up overnight and there was a wild scramble to get in the money. Prices advanced in some cases by leaps and bounds, several of the favorites showing gains of as much as \$30 a share in a single day's trading. There were many predictions that after dividend day there would be a decided break, but these predictions failed to materialize. There was some small decline noted in several instances, but, on the whole, stocks held firmly, with but slight temporary recessions. For a time trading lulled, but within the past few months the activity has been more pronounced than it was last summer.

"'Gambling like niggers shooting craps,' is the way one mill official described the situation at Greenville. The offices of the stock brokers are filled every day with men and women who trade on reports and rumors and are made happy with paper profits.

"'Possibly the stocks are worth the price and possibly they are not,' said a well known mill man, 'but it is not healthy for the industry for men who never owned or operated a spindle or a loom to become rich over night by dealing in mill shares. Wild speculation is never good for any industry and all this advance in price is not adding a single spindle to the mills, nor providing employment for another operative. Somebody is going to get hurt in the future and it will hurt the cotton spinning business,' he concluded.

"The great bulk of the trading, especially the speculative buying, has been confined chiefly to the common stocks. The preferred stocks, for the most part, have very little speculative value and the scramble is all for the common stocks. The preferred stocks, however, in almost all of the Southern mills, are always in good steady demand by conservative investors. Many of these, with their guaranteed dividends of 7 per cent., are looked upon as just as good investments as can be had anywhere, many owners being inclined as favorably toward preferred stocks in the cotton mills as toward bank stocks. An increasing number of people who wish a safe place for their money and a reasonable dividend are turning toward preferred mill stocks.

"Taking it all in all, trading in Southern mill stocks this year has known everything except a slump. Prices have moved swiftly, but always upward and consequently no one has been hurt or suffered great losses. For this reason the general belief

among men in close touch with the situation is that this fever to buy mill stocks will continue unabated until there is a break somewhere and prices drop faster than holders can unload. Until there is something of a crash, with resultant losses to those who have speculated heavily, the present condition is likely to continue merrily along. As to how long the cotton mill industry will see the prosperity that is evident now, no one will even hazard a guess. Popular opinion is that the demand for all kinds of textiles is sufficient to keep the business on its present basis for a long time to come."

AS OTHERS SEE US.

Following is an article in the "New York Dry Goods Merchant", which gives a peculiarly intimate and accurate insight into the business conditions in the South, in two Reconstruction periods:

"The 'South' in the early eighties everywhere betokened poverty, but was beginning to turn the corner toward solid recuperation. Still 5-cent calicoes and unsalable Northern goods of all kinds at reduced prices found their chief market there. Money was scarce, labor poorly paid, and the general standard of living even for the best classes of the white population much below that of the 'North.'

"But the people had problems to solve. They had to commence at the very bottom and build up after the war. They were thrifty, of fine manners and hospitable. Sustained by a fortitude that resolved itself into a wholesome pride they addressed themselves to the task before them without complaint.

"How well they have succeeded, the statistics of wealth give magnificent testimony. At this time it will be found that the whole 'South' has been transformed from a more or less indolent population into a seething mass of energetic and wide-awake human beings. Their principal cities have taken on the spirit and expansion that Northern enterprise has taught them.

"The Northern man in his visits to the South was always impressed and in a way puzzled by the evidence of respect white men showed to each other. There seemed to be complete social equality among them. As he looked for the reason he found that the conditions there drew the white population together. They were homogeneous people who had felt and suffered alike, and it was a natural and easy affiliation.

"A white man, rich or poor, illiterate or educated, was entitled to respect and friendship; and no matter what the sociological cause it was a beautiful thing to behold. The Northern man, brought up among white people of various races, had his race prejudices, and there was little faith in each other. There was respect among those who were tried and not found wanting; among those only who had been put through the refiner's fire.

"But this article is intended to deal briefly only with the progress that has been made in the manufacture of cotton into goods, for it is the growth of the cotton cloth industry throughout the South that has brought about to a large extent the superstructure of wealth that has reared itself all over that land. And the road traveled has been by no means smooth.

"On the contrary, as a whole, it has had a most precarious existence, for the reason that the industry had to be built up through credit and with inexperienced help. But it made a steady gain on the average, and rose to a position of Southern enrichment, next to cotton itself.

"In 1914, the first year of the war, the 'South' received a blow and, as we look back now, we wonder how it survived the disaster. However, it did, but the holders of mill stocks lost hope and would have sold at 'any old price' if they could have found buyers. Alas! There were none.

"In this life we are sometimes restrained from accomplishing our own ruin by our environment, and it was so with those who owned mill stocks. If they could have sold they would have been ruined in many instances.

"A change soon came about and those same holders are now revelling in 'wealth.'

"Office boys, clerks, farmers, miners, trades people, mechanics, all these generally have turned their nest eggs into golden geese; while the capitalists and supposedly shrewd rich men have sat in amazement seeing their properties take on new and undreamed values.

"They have suddenly realized, however, that their earnings justify the advances in many instances, and that when this is not so clear perhaps the future earnings will make it so.

"But a still brighter picture lies in the remarkable progress made in community work in the rehabilitation of mill villages. In some cases this rehabilitation has gone to the length of razing the entire village, laying out beautiful streets and parks, and

building on new spacious sites modern houses with every comfort.

"Mill wages in the South have shown advances commensurate with the new standards of living, and those advances have been made more or less voluntarily by the corporations—that is, not all under threats or strikes. The strikes in and about Charlotte, N. C., and Columbus, Ga., were exceptions to the rule.

"Today choice Southern mill stocks are selling on a basis of \$35 to \$50 per spindle, while Eastern mill stocks are selling on a basis of \$5 to \$15 per spindle.

"The story of the industrial progress of the 'South' is as full of romance as its earlier history, when the white man sat enthroned like the Pharaohs of Egypt; but unlike the days of the Pharaohs, there were no times of famines. On the contrary, there was superabundance. That condition is being repeated today under new forms in which all are prospering, both white and colored."

SOUTHERN MILL STOCKS.

Comparison of prices of Southern mill stocks in 1916 and 1919 are here given as of early December.

Name of Mill.	1916.	1919.
Abbeville Mills	105	150
Alice Mills	98	230
American Spinning Co.	200	300
Anderson Mills	24	160
Aragon Mills	90	200
Arcadia Mills	110	275
Arkwright Mills	110	310
Beaumont Mfg. Co.	150	250
Belton Mills	112	225
Brandon Mills	61	250
Brogan Mills	45	225
Calhoun Mills	78	205
Chesnee Mills	60	315
Clifton Mfg. Co.	104	300
Courtenay Mfg. Co.	90	350
D. E. Converse Co.	60	225
Darlington Mfg. Co.	60	152
Drayton Mills	30	165

Name of Mill.	1916.	1919.
Duncan Mills	35 •	175
Easley Mills	150	450
Enoree Mills	28	125
Gaffney Mfg. Co.	70	210
Gainesville Mills	60	165
Glenwood Mills	90	245
Graniteville Mfg. Co.	40	140
Greenwood Mills	90	250
Grendel Mills	125	300
Hamrick Mills	140	210
Hartsville Mills	200	285
Inman Mills	105	210
Jackson Mills	120	200
Judson Mills	70	225
Lancaster Mills	150	300
Laurens Mills	95	245
Limestone Mills	125	250
Loray Mills, pfd.	90	150
Marion Mfg. Co.	125	250
Marlboro Mills	120	210
Mollohon Mfg. Co.	95	250
Monarch Mills	80	250
Newberry Mills	110	260
Ninety-Six Mills	200	200
Norris Mills	100	175
Orr Mills	90	225
Pacolet Mfg. Co.	100	400
Pelzer Mfg. Co.	105	300
Pickens Mills	95	350
Piedmont Mfg. Co.	155	300
Poe Mfg. Co.	90	250
Poinsett Mills	50	162
Riverside Mills	5	40
Saxon Mills	115	301
Spartan Mills	125	304
Toxaway Mills	4	58
Union-Buffer Mills, 1st pfd.	53	126
Union-Buffer Mills, 2nd pfd.	8	76
Victor-Monaghan Co.	22	246
Ware Shoals Mfg. Co.	105	210

Watts Mills, common	40	102
Watts Mills, 2nd pfd.	25	123
Whitney Mfg. Co.	120	175
Woodruff Mills	110	200
Woodside Mills	40	300
W. S. Gray Mills	120	220

These figures do not visualize the immense number of persons who have been reaping great profits through buying and selling under a steady advancing market.

EUROPEAN COUNTRIES REVIVING.

A year after the cessation of hostilities finds the United States buying more from neutral countries than we are selling to them, and Europe is slowly but gradually beginning to resume her trade.

Great Britain, for the month of November, shipped us \$47,300,000 worth of goods, as against \$9,722,000 in November, 1918. On the other hand, Great Britain took from us in November \$220,000,000 worth, as against \$164,000,000 in 1918. Her ability to export to us as shown by the bare figures has thus greatly increased, our November importations being more than five times as great as they were in November, 1918, while the growth of our shipments to Great Britain shows only an increase of about \$56,000,000, or about 34 per cent. France likewise shows a reasonable, although by no means so encouraging, growth of trade power. From that country we received in November \$19,500,000, as against \$3,729,000 in 1918. A more than proportionate increase, however, is reported by Italy, from which country we imported \$10,915,000, as against \$627,000 in November a year ago. The import trade with Belgium is still negligible, and the same is true of Austria-Hungary, although there is a decided increase in our German business. Taking Europe as a whole, we imported \$110,000,000, as against \$20,000,000 in November, 1918, a gain of \$90,000,000, while we shipped to Europe \$490,000,000, as against \$297,000,000 in November, 1918, an increase of \$192,000,000. The process of recovery is evidently at work, but it is regrettably retarded.

When attention is given to other parts of the world a quite different situation is revealed. Our import trade with countries of North America was \$100,000,000 in November, as against \$78,-

Mrs. Ada Rhodes, Fair Play—"The Market Bureau Bulletin has been of so much help to me until I could not be without it. It has sold things for me that I could not otherwise have marketed. Commissioner Harris is doing good work in his efforts to help the people of South Carolina."

T. O. Newton, Woodruff—"I have received the best of service and have had excellent results in sales through the Market Bulletin. I hope this feature will continue to bring bright and cheerful results and that the service will be extended."

Chas. R. Turner, Cross Hill—"My family has been able to sell advantageously everything advertised in this useful medium."

J. Roy Cunningham, Lancaster—"I always look over the list and generally buy something. I have been very successful in selling what I had listed. I find many things offered in the Bulletin which cannot be found elsewhere."

Capt. M. B. Walker, Chester—"I have found your Market Bureau Bulletin to be of untold benefit to me in selling articles and also in procuring them. I trust that it shall always continue."

John R. Williams, Rock Hill—"I think that this Bulletin is a great thing. I have made some good sales through it as well as purchases."

W. B. McLaurin, McColl, S. C.—"I think the Market Bulletin a great thing for the farmers. I have seen things for sale in it right near me that I would not have heard of otherwise and have had some inquiries from near by that would never have been received only for the Bulletin. I have been able to find several things that I wanted in it."

R. R. Durant, Alcolu—"I like the Bulletin very much and think that it is doing a very good work for the farmer. I have used it to my advantage in the past and will use it again in the near future. We look forward to its coming every week."

J. J. McDaniel, Cornwell—"I have used the Market Bulletin frequently and with good results. I don't think that I have ever advertised anything for which I did not get inquiries and have often had to return checks. I consider the Bulletin a boon to the farmers."

Rev. W. A. Kennedy, Pastor Hopewell A. R. P. Church, Blackstock—"It is a pleasure to me to have the opportunity to testify in behalf of the Market Bulletin. In July I advertised some pigs and sold all I had and could have sold at least as many more. In

was not done on the thoroughly organized composite system employed, and each had to be done separately, with separate directing officials and forces of office clerks, separate laboratories and chemists, entirely distinct inspection forces and overhead charges, there would be a great decrease in efficiency of service, and the cost would greatly exceed the income.

The activities of the Department have made the State well known as a territory which cannot be entered with impunity by vendors of sub-standard commodities. If it were not for the existence of this Department, South Carolina would again be the dumping ground for all kinds of refuse and refused commercial feeds, grain, oils, etc.

We find that the world at large understands very well the laws and the determination of South Carolina, and our inspectors, who are constantly on the go, find fewer causes of complaint every year. South Carolina led the way in this regulatory and protective legislation and neighbor States have followed her example; therefore the outstanding feature of our service is not as noticeable, not so conspicuous as it was a few years ago.

Yet there has been no diminution of effort or of vigilance or of efficiency among our inspectors or chemical laboratory workers. A greater number of samples was analyzed this year, by more than 1,000, as seen by the chief chemist's report.

I feel very proud of the successful year of the regulatory work of this department. It was expected that there would be a loosening of the morale with the ending of the war. The people had been fed and "fed up" on substitutes. So many things had been endured as "war measures" that I was afraid that our complaisance might be imposed upon. But the results of our investigations show that the shippers are sticking to pre-war standards. We have had to condemn shipments, sometimes in carload lots, and we have had to suspend ship cargoes of gasoline until the required standard could be reached. Our standards are not too high.

In fact in the early part of the year I had a complaint from a gentleman in Greenville that he was getting poorer gas than he had bought at Hendersonville, N. C., and that he had paid more for it. Well, our Department has nothing to do with prices, but I made inquiry, getting quotations on prices from Charlotte, Gastonia, Asheville, Hendersonville, Hamlet, and other North Carolina towns and from Augusta and other Georgia points. I found

CHICKEN FEEDS.

Chicken feeds give the Department very little trouble, and it is only occasionally that there is a violation of the law. As a rule the grains used in mixing are whole or cracked very coarsely and it isn't easy for the dishonest manufacturers to put worthless ingredients in this feed. Therefore this class of feeds are usually of a good quality. As a war measure to conserve the wheat supply of this country, the Food Administrator asked the manufacturers of chicken feed not to use more than 10 per cent. good wheat. We wish to assure these manufacturers and the Food Administrator that this Department is willing and anxious to cooperate in every way possible.

CORN PRODUCTS.

Corn products make excellent feed but are little used in this State. Care must be exercised in buying this class of goods, paying strict attention to the analysis as manufacturers use different methods in milling, thus making different grades of byproducts.

WHEAT PRODUCTS.

Wheat products vary some from year to year owing to grade of wheat used and method of milling and are nearly always irregular in analysis. This, however, appears to be unnecessary because if properly milled and not an excess of screenings used, a good product results. Of course the amount of bran and shorts used causes some variation, but all wheat products can be made to come within the standard set by the Department. Here again heed should be given to the guaranteed analysis.

ALFALFA.

Alfalfa feeds have been very good during the past year, though this Department has had but few samples. This feed varies a great deal, sometimes from 12 to 18 per cent. in protein, and the only safe way is to purchase by analysis.

BEET PULP.

Beet pulp, as usual, has been good. In nearly every case this product was up to the guaranteed analysis.

PEANUT MEAL.

Peanuts make an excellent feed, both when crushed with the hulls and when crushed without them. Some trouble has arisen because the millers have placed the guarantee too high, especially on protein, but this can easily be adjusted by placing the protein

at a low enough figure as they run regular in analysis. Peanuts are well adapted to this climate and their growth should be encouraged by all interested in the South's welfare. The oil equals cotton seed oil and the meal is almost as good as the cotton seed meal.

SOY BEAN MEAL.

A few samples of this product came to us this year. Soy beans make a high grade meal, usually running as high as 45 per cent. protein.

Respectfully submitted,
A. C. SUMMERS,
State Chemist.

SUMMARY OF ANALYSIS OF FEED STUFFS FOR YEAR 1919.

FEED STUFFS.

Total number of samples analyzed	972
Total number found above guarantee	507
Total number found below guarantee	465
Number below guarantee in protein	75
Number below guarantee in fat	39
Number above guarantee in fiber	190
Number below guarantee in protein and fat	21
Number below guarantee in protein and above in fiber	27
Number below guarantee in fat and above in fiber	19
Number below guarantee in protein, fat and above in fiber	11
Number below guarantee in carbohydrates	26
Number below guarantee in carbohydrates and above in fiber	10
Number below guarantee in protein and carbohydrates	3
Number below guarantee in fat, carbohydrates and above in fiber ..	2
Condemned on account of being damaged	0

MIXED FEEDS.

Total number of samples analyzed	470
Total number of samples up to guarantee	235
Total number of samples below guarantee	235
Number below guarantee in protein	49
Number below guarantee in fat	22
Number above guarantee in fiber	84
Number below guarantee in protein and fat	15
Number below guarantee in protein and above in fiber	13
Number below guarantee in fat and above in fiber	8
Number below guarantee in protein, fat and above in fiber	9
Number below guarantee in carbohydrates	11
Number below in carbohydrates and above in fiber	7
Number below guarantee in carbohydrates and protein	1
Number below guarantee in fat, carbohydrates and above in fiber ..	1

ALFALFA PRODUCTS.

Total number of samples analyzed	2
Total number up to guarantee	2
Total number below guarantee	0

CHICKEN FEEDS.

Total number of samples analyzed	42
Total number of samples up to guarantee	22
Total number of samples below guarantee	20
Number below guarantee in protein	0
Number below guarantee in fat	2
Number above guarantee in fiber	9
Number below guarantee in protein and fat	1
Number below guarantee in protein and above in fiber	0
Number below guarantee in fat and above in fiber	1
Number below guarantee in protein, fat and above in fiber	0
Number below guarantee in carbohydrates	1

PEANUT MEAL.

Total number of samples analyzed	45
Total number of samples up to guarantee	19
Total number of samples below guarantee	26
Number below guarantee in protein	1
Number below guarantee in fat	2
Number above guarantee in fiber	9
Number below guarantee in protein and fat	0
Number below guarantee in protein and above in fiber	4
Number below guarantee in fat and above in fiber	5
Number below guarantee in protein, fat and above in fiber	1
Number below guarantee in carbohydrates	3
Number below guarantee in protein and carbohydrates	1

RICE PRODUCTS.

Total number of samples analyzed	61
Total number of samples up to guarantee	31
Total number of samples below guarantee	30
Number below guarantee in protein	1
Number below guarantee in fat	3
Number below guarantee in carbohydrates	1
Number above guarantee in fiber	18
Number below guarantee in protein and fat	0
Number below guarantee in protein and above in fiber	2
Number below guarantee in fat and above in fiber	1
Number below guarantee in protein, fat and above in fiber	0

COTTON SEED MEAL.

Total number of samples analyzed	128
Total number of samples up to guarantee	80
Total number of samples below guarantee	48
Number below guarantee in protein	15
Number below guarantee in fat	0
Number above guarantee in fiber	18
Number below guarantee in protein and fat	2
Number below guarantee in protein and above in fiber	6
Number below guarantee in fat and above in fiber	0
Number below guarantee in protein, fat and above in fiber	0
Number below guarantee in carbohydrates	5
Number below guarantee in carbohydrates and above in fiber	2

WHEAT PRODUCTS.

Total number of samples analyzed	194
Total number of samples up to guarantee	86
Total number of samples below guarantee	108
Number below guarantee in protein	8
Number below guarantee in fat	8

Number above guarantee in fiber	49
Number below guarantee in protein and fat	2
Number below guarantee in protein and above in fiber	2
Number below guarantee in fat and above in fiber	4
Number below guarantee in protein, fat and above in fiber	1
Number below guarantee in carbohydrates and above in fiber	2
Number below guarantee in protein and carbohydrates	1
Number below in fat and carbohydrates and above in fiber	1

MISCELLANEOUS SAMPLES.

Total number of samples analyzed	22
Total number of samples up to guarantee	14
Total number of samples below guarantee	8
Number below guarantee in protein	1
Number below guarantee in fat	1
Number above guarantee in fiber	2

CORN PRODUCTS.

Total number of samples analyzed	10
Total number of samples up to guarantee	3
Total number of samples below guarantee	7
Number below in protein	0
Number below in fat	1
Number above in fiber	1
Number below in protein and fat	1
Number below in protein and above in fiber	0
Number below in fat and above in fiber	0
Number below in protein and fat and above in fiber	0
Number below in carbohydrates	0

SPECIAL SAMPLES OF FEED STUFFS.

Total number of samples analyzed	22
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**TOTAL NUMBER OF SAMPLES ANALYZED IN THE LABORATORY
DURING THE YEAR 1919.**

Total number samples of gasoline	1,793
Total number of samples of kerosene	796
Total number samples of mixed feed	470
Total number samples of alfalfa products	2
Total number samples of chicken feed	42
Total number samples of peanut meal	45
Total number samples of rice products	61
Total number samples of cotton seed meal	128
Total number samples of wheat products	194
Total number samples of corn products	10
Total number samples of corn meal	43
Total number samples of corn grits	8
Total number samples of beverage	252
Total number samples of flour	4
Total number samples of seed	20
Total number samples of powdered milk	1
Total number samples of velvet bean products	4
Total number samples of beet pulp	5
Total number samples of tankage	3
Total number samples of rye	1
Total number samples of cocoanut products	9

COLLECTION OF SAMPLES.

Number of times samples of feed stuffs were collected from the following towns during the year 1919:

Abbeville	9	Florence	3
Alken	4	Fort Motte	2
Allendale	1	Fort Mill	9
Anderson	17	Fountain Inn	8
Autun	1		
Aynor	1	Gaffney	4
		Georgetown	4
Bamberg	1	Gilbert	1
Barnwell	1	Goldville	1
Batesburg	5	Graniteville	2
Beaufort	2	Greeleyville	1
Belton	4	Greenville	25
Bennettsville	10	Greenwood	25
Bethune	1	Greer	7
Bishopville	12	Grey Court	2
Blacksburg	1		
Blackstock	2	Hardeeville	2
Blackville	2	Hartsville	20
Blairs	2	Hickory Grove	1
Blaney	2	Hodges	3
Blythewood	1	Holly Hill	1
Hascomville	1	Honea Path	6
Bowman	1	Hyman	2
Bradley	1		
		Inman	1
Calhoun Falls	4	Iva	4
Camden	10		
Cameron	1	Jefferson	3
Campobello	1	Johnston	5
Carlisle	1	Jonesville	3
Cayce	2		
Chapin	1	Kershaw	6
Charleston	164	Kinard	1
Cheraw	8	Kline	2
Chester	10		
Chesterfield	3	Lake City	2
Clifton	1	Lake View	6
Clinton	3	Lancaster	5
Clio	7	Landrum	3
Clover	4	Langley	2
Columbia	73	Laurens	6
Conway	6	Latta	3
Cowpens	3	Lando	1
Cross Hill	4	Lexington	9
		Liberty	4
Darlington	9	Little Mountain	1
Denmark	3	Little River	2
Dillon	9	Loris	2
Donalds	2	Lowndesville	1
Due West	2	Lugoff	2
		Lydia	3
Easley	7	Lynchburg	4
Edgefield	4		
Ellenton	1	Manning	9
Elliott	1	Marion	6
Elloree	1	Mars Bluff	1
Enoree	3	Mayesville	1

Modoc	1	Seneca	8
Mullins	18	Sharon	1
McBee	1	Shelton	1
Mt. Carmel	2	Simpsonville	5
McColl	8	Spartanburg	37
McCormick	7	Starr	3
		Summerton	1
Neeses	1	Sumter	13
Newberry	12	Swansea	6
New Brookland	2	St. Charles	2
Nichols	3	St. George	2
Ninety-Six	8	St. Matthews	3
Norris	1		
North	1	Tatum	2
Norway	1	Taylors	2
		Timmons ville	7
Orangeburg	2	Townsville	1
Olanda	1	Troy	1
Owings	1	Union	7
Pacolet	2	Varnville	2
Pageland	5	Vaucluse	2
Pamplico	1	Verdry	1
Patricks	1		
Pelham	1	Wagener	1
Pelzer	5	Walhall	2
Pendleton	5	Waterloo	3
Pickens	3	Walterboro	1
Piedmont	7	Wampee	1
Pomaria	1	Ware Shoals	4
Postum	1	Warrenville	1
Prosperity	5	Westminster	15
		West Union	2
Rembert	1	Whitmire	4
Ridgeland	1	Williamston	4
Ridge Spring	3	Willford	3
Ridgeway	1	Williston	2
Rock Hill	8	Willington	3
Rowesville	2	Windsor	1
Ruby	1	Winnsboro	5
Saluda	2	Yemassee	2
Sandy Springs	2	York	10
Scranton	1		

Number of samples of feed stuffs taken from the following manufacturers during the year 1919:

	Total.	Good.	Deficient.
Acme Mills, Hopkinsville, Ky.	4	2	2
Acme Evans Co., Indianapolis, Ind.	2	2	0
Adler Export Co., New Orleans, La.	6	4	2
Adluh Milling Co., Columbia, S. C.	21	9	12
Adams Grain and Provision Co., Richmond, Va.	6	4	2
Aiken Erskine Milling Co., Evansville, Ind.	1	1	0
Alco Feed Co., Atlanta, Ga.	6	5	1
Alfocorn Milling Co., East St. Louis, Ill.	2	1	1
Alva Roller Mills, Alva, Okla.	1	0	1
American Hominy Co., Decatur, Ill.	3	2	1
American Feed Milling Co., Asheville, N. C.	10	2	8
American Hominy Co., Indianapolis, Ind.	5	4	1

	Total.	Good.	Deficient.
American Milling Co., Peoria, Ill.	2	1	1
Atlanta Milling Co., Atlanta, Ga.	6	6	0
Augusta Roller Mills, Staunton, Va.	1	0	1
Austin-Heaton Co., Durham, N. C.	4	1	3
Ballard & Ballard, Louisville, Ky.	2	1	1
Beaumont Rice Mills, Beaumont, Texas	1	1	0
Bell, J. W. Spartanburg, S. C.	13	6	7
Benedict Commission Co., New Orleans, La.	1	0	1
Bernet-Kraft-Kaufman Mill. Co., St. Louis, Mo.	2	1	1
Birdsey Milling Co., Adairsville, Ga.	5	5	0
Blish Milling Co., Seymour, Ind.	1	1	0
Boyd, Chas. F. Charleston, S. C.	9	0	9
Buckeye Cotton Oil Co., Augusta, Ga.	13	9	4
Buckeye Cotton Oil Co., Charlotte, N. C.	2	2	0
Buckeye Cotton Oil Co., Memphis, Tenn.	4	2	2
Buckeye Cotton Oil Co., Cincinnati, Ohio	5	3	2
Buhler Mill & Elevator Co., Buhler, Kan.	1	1	0
Cadick Milling Co., Grandview, Ind.	1	0	1
Camilla Cotton Oil Co., Camilla, Ga.	4	1	3
Carolina Milling Co., Dillon, S. C.	6	2	4
Carlisle Cotton Oil Co., Carlisle, S. C.	1	1	0
Cheraw Oil & Fertilizer Co., Cheraw, S. C.	2	2	0
Circleville Milling Co., Circleville, Ohio	1	0	1
Clark Milling Co., Augusta, Ga.	7	5	2
Clover Cotton Oil & Ginning Co., Clover, S. C.	2	2	0
Coker-Lawton Food Co., Hartsville, S. C.	4	1	3
Columbia Mill and Elevator Co., Columbia, Tenn.	1	0	1
Corley Company, Washington, D. C.	1	1	0
Corno Mills, St. Louis, Mo.	18	15	3
Cowpens Cotton Oil Mill Co., Cowpens, S. C.	3	3	0
Dan Valley Mills, Danville, Va.	1	0	1
Dickenson Co., Albert, Chicago, Ill.	1	1	0
Domestic Flour Milling Co., Kansas City, Mo.	2	0	2
Donaldson Oil Mill, Donaldson, Ga.	2	2	0
Dorchester Cotton Oil Co., St. George, S. C.	2	1	1
Due West Cotton Oil Co., Due West, S. C.	1	1	0
Dunlop Milling Co., Richmond, Va.	2	2	0
Dunlop Milling Co., Clarksville, Tenn.	4	1	3
Dyersburg Milling Co., Dyersburg, Tenn.	4	4	0
Eagle Roller Mills, Greenville, S. C.	3	1	2
Early & Daniel Co., Cincinnati, Ohio	7	6	1
Easley Cotton Oil Co., Easley, S. C.	1	1	0
Edison Oil Co., Edison, Ga.	1	0	1
Eggus Milling Co., Hermann, Mo.	1	0	1
Emison & Co., J. & S., Vincennes, Ind.	1	1	0
Empire Cotton Oil Co., Atlanta, Ga.	3	1	2
Empire Rice Mill Co., New Orleans, La.	9	3	6
Empire Mills, Columbus, Ga.	1	1	0
Enterprise Cotton Oil Co., Enterprise, Ala.	1	0	1
Evansville Mill & Elevator Co., Evansville, Ind.	1	0	1
Excello Feed Milling Co., St. Joseph, Mo.	2	1	1
Farmers Cotton Oil Co., Wilson, N. C.	1	0	1
Farmers Oil Mill Co., Newberry, S. C.	1	1	0
Farkas, Paul, Albany, Ga.	1	1	0
Foster, H. T. Charleston, S. C.	1	1	0
Fountain Inn Oil Mill Co., Fountain Inn, S. C.	2	0	2

	Total.	Good.	Deficient.
Gambrill, C. A. Baltimore, Md.	1	0	1
Gevinse Milling Co., Columbus, Ohio	1	1	0
Gibbons, J. T., New Orleans, La.	8	6	2
Golden Grain Milling Co., East St. Louis, Ill. ..	15	12	3
Grain Products Co., Wichita, Kan.	3	2	1
Grain Belt Milling Co., St. Joseph, Mo.	11	9	2
Great Western Alfalfa Mill. Co., Denver, Col.	1	1	0
Great Western Sugar Co., Denver, Col.	1	1	0
Greer Cotton Seed Oil & Ferz. Co., Greer, S. C.	1	1	0
Grimes Bros., Lexington, N. C.	1	0	1
Gwinn Milling Co., Columbus, Ohio	2	2	0
Hale & Sons, J., Ionia, Mich.	2	2	0
Hammond Co., Laurinburg, N. C.	5	1	4
Harden & Rourk, Savannah, Ga.	1	0	1
Hartsville Cotton Oil Co., Hartsville, S. C.	4	1	3
Haskins Trading Co., New Orleans, La.	9	8	1
Hecker-Jones-Jewel Milling Co., New York	5	4	1
Henderson Roller Mills, Monroe, N. C.	1	0	1
Highland Park Mfg. Co., Rock Hill, S. C.	3	2	1
Hoge & Bros., W. S. Washington, D. C.	4	4	0
Holliday, H. L. Mfg. Co., Cairo, Ill.	1	0	1
Honea Path Oil Mill, Honea Path, S. C.	1	1	0
Howell Grain & Feed Co., Union City, Tenn.	2	0	2
Ingleheart Bros., Evansville, Ind.	1	0	1
International Stock Feed Co., Memphis, Tenn. ..	1	1	0
International Veg. Oil Co., Arlington, Ga.	1	0	1
International Sug. Feed No. 2 Co., Memphis, Tenn.	15	11	4
Internat. Sug. Feed No. 1 Co., Minneapolis, Minn.	2	1	1
Interstate Milling Co., Charlotte, N. C.	8	1	7
Just Mills, Nashville, Tenn.	10	5	5
Jonesville Oil Mill, Jonesville, S. C.	1	1	0
Jackson Milling Co., Stevens Point, Wis.	1	0	1
Kansas Flour Mill Co., Kansas City, Mo.	1	1	0
Kehlors Flour Mills Co., St. Louis, Mo.	12	7	5
Kemper Mills & Elevator Co., Kansas City, Mo.	1	1	0
Kershaw Oil Mill, Kershaw, S. C.	4	2	2
Krause Milling Co., Chas. Richmond, Va.	1	0	1
Kolner, J. S. & Co., New Orleans, La.	5	3	2
Lancaster Cotton Oil Co., Lancaster, S. C.	3	3	0
Larrabee Flour Mill Corp., Kansas City, Mo.	1	1	0
Larowe Milling Co., Detroit, Mich.	2	2	0
Laurenceburg Roller Mills, Laurenceburg, Ind. ..	4	3	1
Leesville Oil Mills, Leesville, S. C.	1	0	1
Le Grange Mills, Red Wing, Minn.	1	1	0
Lexington Roller Mills, Lexington, Ky.	1	0	1
Liberty Oil Mill, Liberty, S. C.	1	1	0
Liberty Mills, Nashville, Tenn.	3	2	1
Listman Milling Co., LaCrosse, Wis.	1	1	0
Londonville Mill & Grain Co., Londonville, Ohio .	1	0	1
Louisville Milling Co., Louisville, Ky.	1	1	0
La. State Rice Mill. Co., New Orleans, La.	4	0	4
Luding, H. G., Charleston, S. C.	1	1	0
Lyles & Lyles, Huntsville, Ala.	1	1	0

	Total.	Good.	Deficient.
Manning Oil Mill, Manning, S. C.	1	1	0
Mansfield Milling Co., Mansfield, Ohio.	1	0	1
Maney Milling Co., Omaha, Neb.	1	0	1
Martin-Howard Co., Charleston, S. C.	1	1	0
Marshall Milling Co., Marshall, Tenn.	1	1	0
Matthews & Sons, G. B. New Orleans, La.	20	9	11
Mayo Milling Co., Richmond, Va.	4	2	2
Mayflower Mills, Fort Wayne, Ind.	1	0	1
Midland Milling Co., Kansas City, Mo.	1	1	0
Milan-Morgan Co., New Orleans, La.	3	3	0
Miles Milling Co., Union Springs, Ala.	1	0	1
Mixco Feed Co., Charleston, S. C.	1	0	1
Model Mills Co., Johnson City, Tenn.	14	1	13
Modern Flour Mills, Macon, Ga.	1	0	1
Molony & Carter Co., Charleston, S. C.	31	13	18
Monarch Mills, Chattanooga, Tenn.	7	1	6
Morgan & Co., Edgar, Memphis, Tenn.	17	12	5
Morristown Flour Mill, Morristown, Tenn.	4	0	4
Mountain City Mill Co., Chattanooga, Tenn.	4	2	2
Mutual Grain Co., Richmond, Va.	4	2	2
National Oats Co., St. Louis, Mo.	7	2	5
National Milling Co., Macon, Ga.	30	27	3
Neustadt & Co., New York City, N. Y.	1	1	0
Newport Mill Co., Newport, Tenn.	4	1	3
Ninety-Six Oil Mill Co., Ninety-Six, S. C.	2	2	0
Norfolk Feed Milling Co., Norfolk, Va.	1	0	1
North Bros., Kansas City, Mo.	1	1	0
Oconee Milling & Grain Co., Dublin, Ga.	1	1	0
Omaha Flour Mills Co., Omaha, Neb.	3	2	1
Orange Rice Mills, Orange, Texas	1	1	0
Palmetto Oil Co., Bishopville, S. C.	2	2	0
Patterson & Co., G. E. Memphis, Tenn.	8	1	7
Pearlstone & Sons, I. M., Charleston, S. C.	2	2	0
Peerless Milling Co., Cairo, Ill.	1	1	0
Pendleton Oil Mill, Pendleton, S. C.	2	2	0
Peters Mill Co., M. C. Omaha, Neb.	14	12	2
Peoples Oil & Fertz. Co., Anderson, S. C.	2	1	1
Phoenix Flour Mills, Evansville, Ind.	1	0	1
Pickens Oil & Fertz. Co., Pickens, S. C.	1	1	0
Pike Milling Co., Griggsville, Ill.	1	1	0
Piedmont Mills, Lynchburg, Va.	2	0	2
Pillsbury Flour Mills, Minneapolis Minn.	3	3	0
Planters Cotton Oil Co., Dotham, Ala.	1	1	0
Plant Mill. Co., Geo. P. St., Louis, Mo.	1	1	0
Pope, Chas., Chicago, Ill.	1	1	0
Pope, Chas., Riverdale, Ill.	1	1	0
Pritchard & Co., W. R., Charleston, S. C.	2	2	0
Prosperity Cotton Oil Co., Prosperity, S. C.	2	2	0
Proctor & Gamble, Cincinnati, Ohio	1	0	1
Purina Mills, St. Louis, Mo.	12	5	7
Quaker Oats Co., Chicago, Ill.	26	11	15

	Total.	Good.	Deficient.
Ralston Purina Co., St. Louis, Mo.	1	1	0
Reichart Milling Co., Freeburg, Ill.	1	1	0
Rex Mill & Feed Co., Nashville, Tenn.	4	2	2
Roanoke City Mills, Roanoke, Va.	9	4	5
Rosenbaum Bros., Chicago, Ill.	1	1	0
Royal Feed Milling Co., Jackson, Miss.	1	0	1
Royal Feed Milling Co., Memphis, Tenn.	16	11	5
Sea Island Cotton Oil Co., Charleston, S. C.	18	5	13
Seaboard Feed & Produce Co., Henderson, N. C. .	3	0	3
Seneca Oil Mill, Seneca, S. C.	2	2	0
Security Mill & Feed Co., Knoxville, Tenn.	8	3	5
Scott County Milling Co., Sikeston, Mo.	1	1	0
Shane Bros. & Wilson Co., Philadelphia, Pa.	3	0	3
Shenandoah Milling Co., Shenandoah, Va.	2	0	2
Shelton Mills, Chattanooga, Tenn.	1	0	1
Smith J. Allen, Knoxville, Tenn.	3	3	0
Southern States Co., Nashville, Tenn.	2	0	2
Southern Cotton Oil Co., Abbeville, S. C.	4	4	0
Southern Cotton Oil Co., Sumter, S. C.	3	2	1
Southern Cotton Oil Co., Camden, S. C.	2	1	1
Southern Cotton Oil Co., Dillon, S. C.	2	2	0
Southern Cotton Oil Co., Winnsboro, S. C.	2	0	2
Southern Cotton Oil Co., Davidson, N. C.	1	1	0
Southern Cotton Oil Co., Bennettsville, S. C.	1	0	1
Southern Cotton Oil Co., Greenwood, S. C.	2	1	1
Southern Cotton Oil Co., Chester, S. C.	1	1	0
Southern Cotton Oil Co., Darlington, S. C.	1	1	0
Southern Cotton Oil Co., Newberry, S. C.	1	1	0
Southern Cotton Oil Co., Montgomery, Ala.	1	0	1
Southern Cotton Oil Co., Spartanburg, S. C.	1	0	1
Southern Cotton Oil Co., Union, S. C.	1	0	1
Southern Cotton Oil Co., Columbia, S. C.	6	3	3
Southern Cotton Oil Co., Charlotte, N. C.	1	1	0
Southern Oil & Feed Mills Co., Petersburg, Va. .	9	7	2
Southern Feed Co., Newport News, Va.	1	1	0
Southern Milling Co., Kansas City, Mo.	2	2	0
Southport Mills, Ltd., New Orleans, La.	2	2	0
Southwestern Milling Co., Kansas City, Mo.	6	2	4
Spartanburg Roller Mills, Spartanburg, S. C.	2	1	1
Spartan Grain & Mill Co., Spartanburg, S. C.	19	11	8
Sparger Mill Co., Bristol, Tenn.	3	1	2
Starling Mills, Inc., Statesville, N. C.	3	1	2
Statesville Flour Mill, Statesville, S. C.	3	0	3
Standard Tilton Mfg. Co., St. Louis, Mo.	1	1	0
Stickell & Sons, Hagerstown, Md.	1	0	1
Steinhardt Co., New Orleans, La.	5	5	0
Stock & Sons, F. W. Hillsdale, Mich.	9	2	7
Stuttgart Rice Mill Co., Stuttgart, Ark.	7	2	5
Standard Milling Co., Stuttgart, Ark.	1	0	1
Standard Rice Co., Crawley, La.	1	0	1
Suffolk Oil Mill, Suffolk, Va.	3	2	1
Sutherland Flour Mills, Cairo, Ill.	4	0	4
Superior Feed Co., Memphis, Tenn.	8	3	5
Swift & Co., Oil Mill, Columbia, S. C.	2	1	1
Swift & Co., Chicago, Ill.	1	1	0
Tennessee Fibre Co., Memphis, Tenn.	3	1	2
Timmons ville Oil Co., Timmons ville, S. C.	2	1	1
Town Creek Milling Co., Lenoir City, Tenn.	2	0	2
Traub's Sons Co., H., Savannah, Ga.	1	1	0

	Total.	Good.	Deficient.
Ubiiko Milling Co., Cincinnati, Ohio	2	0	2
Union Abattoir, Inc., Richmond, Va.	1	0	1
Union Milling Co., Nashville, Tenn.	1	1	0
Union Seed & Fertz. Co., Columbia, S. C.	5	5	0
Union Seed & Fertz. Co., Greenville, S. C.	1	1	0
Universal Oil Co., Wilmington, N. C.	3	2	1
Valiers & Spies Milling Co., Marine, Ill.	4	4	0
Van Idestine Co., Long Island City, N. Y.	1	1	0
Victor Cotton Oil Co., Gaffney, S. C.	5	1	4
Voight Milling Co., Grank Rapids, Mich.	2	2	0
Wade & Sons, John, Memphis, Tenn.	5	5	0
Waggoner Gates Mill. Co., Independence, Kan... ..	1	1	0
Washburn-Crosby Co., Minneapolis, Minn.	3	3	0
Ware Shoals Oil Mill, Ware Shoals, S. C.	1	1	0
Watson Oil Mill Co., Starr, S. C.	1	1	0
Watson, W. A. Greensboro, N. C.	1	0	1
Weiters & Sons, E. F. A., Charleston, S. C.	1	1	0
Weinmann Milling Co., J. F. Little Rock, Ark. ..	1	0	1
West Union Oil Mill Co., West Union, S. C.	1	1	0
Westminster Oil & Fertz. Co., Westminster, S. C.	3	3	0
Wilkes & Co., J. H. Nashville, Tenn.	12	7	5
Williamsburg Liberty Mill. Co., Kingstree, S. C.	1	1	0
Wilmont Oil Mill, Pelzer, S. C.	3	2	1
Wichita Mill & Elev. Co., Wichita Falls, Texas ..	6	4	2
Woodruff Oil & Fertz. Co., Woodruff, S. C.	1	1	0
Wright Milling Co., Bluefield, West Va.	3	1	2
Wrights Milling Co., Camden, S. C.	1	1	0
Yorkville Cotton Oil Co., York, S. C.	2	2	0

PURE FOOD AND DRUGS.

Hon. B. Harris, Commissioner of Agriculture, Commerce and Industries, Columbia, S. C.

Dear Sir: I have the honor to submit for your approval, this the Seventh Annual Report from the State Laboratory on foods and drugs for the year ending December 31, 1919.

Very few violations of this law has come to our attention during the past year, and we are forced to believe that a better class of goods are coming into our State than ever before. It is still true that the law is very defective in many instances, and in some cases robbery and fraud is being practiced by unscrupulous dealers by shrewd advertising and attractively decorating the packages. It is still the hope of the Department that some more effective laws can be placed around the food products coming into our State so that our people will be given the greatest possible protection.

CANNED GOODS.

The work on canned goods has not been pushed vigorously this year, because as heretofore the laws placing this work under our Department are not specific enough for rigid enforcement. There is always a large amount of this class of goods on our markets every year, and should be closely inspected because the Pure Food and Drug Law is easily evaded by the use of preservatives and coloring matter. All samples coming to our attention have been of a good quality and showed no violation of the law.

BEVERAGES.

The Chemical Department has handled more samples of beverages or so-called soft drinks the past year than ever before. When the prohibition law went into effect this State was soon flooded with many different brands of these so-called drinks, and in many cases they were in direct violation of the prohibition law, and in some cases, a violation of the Pure Food and Drug Law. It is the duty of this Department to enforce the Pure Food and Drug Law, which was done effectively, but the majority of the cases were only a violation of the prohibition law, and, of

course, we had no jurisdiction in this. The laboratory only made the analysis of percentage of alcohol and turned the whole matter over to the officer of the law, making the charge without recommendation. In most instances the percentage of alcohol was far in excess of the allowance by the law.

Work of this nature is not entirely satisfactory, as we are without authority to do anything but make analysis, and the officer of the law many times loses his case because he does not have the evidence necessary to convict. There is no provision for our chemist to testify in courts. This law should be rigidly enforced by some State department, as our State is still being flooded with this class of goods.

GRITS.

Grits have been inspected very closely this year, and practically no trouble has arisen with this class of goods. This is probably due to the fact that it is ground into much larger particles than meal, and any inferior grade of corn could easily be detected. Grits are bought in very small quantities also and this, too, explains why the quality is nearly always good.

CORN MEAL.

This Department continues to carry on a vigorous inspection of corn meal, and has found the quality to be much improved over past years. Some shipments have been confiscated because the meal contained an excessive amount of acidity, but such cases are not as frequent as heretofore. The merchants of the State have learned that it did not pay to buy meal in large amounts and store away in hot or damp warehouses as they had been accustomed to doing before the Department inspected corn meal. I think this is largely responsible for a higher grade of meal coming into our State.

Most manufacturers of meal and grits put their products in 25, 50 and 100 pound bags. In that South Carolina is practically the only State with the 48-pound standard, there is necessarily much confusion because of a conflict in State and Federal regulation. Two years ago the General Assembly passed a law to make 50 pounds the standard for a bushel of bolted meal, which was the standard weight then for unbolted. Through an error in transcribing the Act, the unbolted standard was reduced to 48 and the Act had the reverse effect from that originally intended.

The State Department of Agriculture has had numerous inquiries and appeals for relief, and dealers will no doubt ask that such a Bill be enacted into law.

FLOUR.

Very little work has been done on flour this year, but the samples handled met the requirements of the law.

Respectfully submitted.

A. C. SUMMERS,
State Chemist.

SUMMARY OF ANALYSIS OF CORN MEAL.

Total number of official samples	43
Total number samples passed	18
Total number samples deficient	25

Number of samples of Corn Meal taken from the following manufacturers during 1919:

	Total.	Good.	Deficient.
Acme Milling Co., Talbot, Tenn	2	1	1
Acme Milling Co., Hopkinsville, Ky.	1	0	1
Adluh Milling Co., Columbia, S. C.	3	2	1
Bell, J. W., Spartanburg, S. C.	2	1	1
Clark Milling Co., Augusta, Ga.	2	1	1
Coker-Lawton Food Co., Hartsville, S. C.	1	1	0
Dahnke-Walker Milling Co., Union City, Tenn.	3	2	1
Dunlop Mills, Richmond, Va.	1	0	1
Julliett Milling Co., Julliett, Ga.	1	0	1
Kingston Milling Co., Kingston, Ohio	5	1	4
Louisville Milling Co., Louisville, Ky.	4	1	3
Model Mill Co., Johnson City, Tenn.	2	1	1
Mountain City Mill Co., Chattanooga, Tenn.	4	3	1
Part Wentworth Mill & Elev. Co., Savannah, Ga.	1	0	1
Sparger Mill Co., Bristol, Va.	1	1	0
Spartanburg Roller Mills, Spartanburg, S. C.	1	1	0
Talmadge Bros. & Co., Athens, Ga.	1	0	1
Town Creek Milling Co., Lenoir City, Tenn.	8	2	6

Number of samples of corn meal taken from the following towns during 1919:

Barnwell	2	Jonesville	1
Beaufort	1		
Bishopville	2	Pelzer	2
Blairs	1	Pinewood	1
		Piedmont	1
Charleston	1		
Clio	2	Spartanburg	2
Columbia	15	Sumter	1
Conway	1		
		Timmons ville	1
Florence	2		
		Waterloo	2
Greenville	1	Wedgfield	1
Greenwood	2	Winnsboro	1

SUMMARY OF ANALYSIS OF CORN GRITS.

Total number of official samples	8
Total number of samples passed	8
Total number of samples deficient	0

Number of samples of feed stuffs, without the guarantee stated, taken from the following manufacturers during the year 1919:

American Feed Milling Co., Asheville, N. C.	1
Benedict Commission Co., New Orleans, La.	1
Buckeye Cotton Oil Co., Charlotte, N. C.	1
Carolina Milling Co., Dillon, S. C.	1
Eagle Roller Mills, Greenville, S. C.	1
Molony & Carter Co., Charleston, S. C.	1
Orange Rice Mill, Orange, Texas	1
Reichert Milling Co., Freesburg, Ill.	1
Spartan Grain and Mill Co., Spartanburg, S. C.	1
Southern Cotton Oil Co., Columbia, S. C.	1
Southport Mills, Inc., New Orleans, La.	1
Stuttgart Rice Mills, Stuttgart, Ark.	1
Voight Milling Co., Grand Rapids, Mich.	1
Williamsburg Liberty Milling Co., Kingstree, S. C.	1
Wrights Milling Co., Camden	1

Number of samples of feed stuffs, without carbohydrates stated, taken from the following manufacturers during the year 1919:

Adams Grain & Provision Co., Richmond, Va.	5
Acme Evans Co., Indianapolis, Ind.	1
American Hominy Co., Indianapolis, Ind.	6
Alco Feed Mills, Atlanta, Ga.	5

Birdseye Milling Co., Adairsville, Ga.	1
Buckeye Cotton Oil Co., Cincinnati, Ohio	1
Cheraw Oil & Fertilizer Co., Cheraw, S. C.	1
Corley Company, Washington, D. C.	1
Circleville Milling Co., Circleville, Ohio	1
Emison & Co., J. & S., Vincennes, Ind.	1
Gevinse Milling Co., Columbus, Ohio	1
Gwinn Milling Co., Columbia, Ohio	1
Hale & Sons, J., Ionia, Mich.	2
Kansas Flour Mill Co., Kansas City, Mo.	1
Krause Milling Co., Chas. A., Richmond, Va.	1
Listman Milling Co., La Crosse, Wis.	1
La Grange Mills, Red Wing, Minn.	1
Mayflower Mills, Fort Wayne, Ind.	1
Neustadt & Co., New York City, N. Y.	1
Swift & Company, Chicago, Ill.	1
Southern Milling Co., Inc., Kansas City, Mo.	1
Stock & Sons, F. A., Hillsdale, Mich.	2
Standard Rice Co., Inc., Crawley, La.	1
Traub's Sons, Co., H., Savannah, Ga.	1
Van Idestine Milling Co., Long Island City, N. Y.	1
Voight Milling Co., Grank Rapids, Mich.	1
Watson & Company, W. A., Greensboro, N. C.	1

Samples of feed stuffs taken from the following manufacturers during the year 1919:

(1) Fat, fiber and carbohydrates not stated:	
The Hammond Company, Laurinburg, N. C.	1
Victor Cotton Oil Co., Gaffney, S. C.	1
(2) Fiber and carbohydrates not stated:	
Victor Cotton Oil Co., Gaffney, S. C.	1
(3) Fat and carbohydrates not stated:	
Southwestern Sugar Co., Denver, Col.	1

Seed and Grain

Hon. B. Harris, Commissioner of Agriculture, Commerce and Industries, Columbia, S. C.

Dear Sir: I have the honor to submit for your approval this, the Sixth Annual Report from the State Laboratory on seed and grain, for the year ending December 31, 1919.

This year has been the most thorough of any in the seed inspection and testing. The inspectors sent in a great many samples besides the local dealers and seed men who submitted a great many samples direct, the latter will be mentioned separately.

Clover, alfalfa, vetch, rape and seed oats are the samples usually handled, and on the whole, the majority germinated well, and the dealer advised to proceed with sale. In some few cases, however, seed were withheld from sale in this State because of low germinating quality, and too great a percentage of foreign seed, trash or dirt.

Johnson Grass, which gave the Department so much trouble last season, was not so bad this year, since the ruling of the Commissioner is so strict in cases of this kind. The present ruling allows two per cent. or twenty per thousand of Johnson Grass. This, I would suggest, is still too lenient. Samples submitted by local dealers and seed men were handled as promptly and efficiently as those taken by our inspectors, and we have cooperated in every way possible to give them the greatest protection. This means a great deal to them, for they are able under the Seed Inspection Law to get protection from the shippers.

CORN.

I am safe in saying that the corn shipped into South Carolina the past year has surpassed that of any previous year in regard to quality. Practically no trouble has been encountered and very few seizures have been made. A few years ago the amount of damaged corn shipped into our State was enormous, but the Department was firm in her demand for a good grade of corn, and the Western shippers soon learned that to ship any other grade meant a loss to them, as this Department would not allow its sale. In many instances the local dealers ask for inspection and grading before they allow the shipment to be unloaded.

The standards adopted by the United States Department of Agriculture in July, 1914, are used by this Department in grading corn.

OATS.

The quality of oats shipped into this State for feeding purposes has been unusually good for the entire year. Nearly all samples examined have come within the standards adopted by the Department. It was only last year that so much trouble arose

over the fake, or adulterated oats which contained fifteen to thirty per cent. foreign seed or trash. The oat situation this year is indeed encouraging.

Respectfully submitted,

A. C. SUMMERS,
State Chemist.

Number of samples of seed submitted for germination during the year 1919:

Number of samples of seed submitted	20
Number of samples seed passed	14
Number of samples of seed not passed	6

BEVERAGE.

Number of samples submitted	252
Number of samples containing alcohol	216
Number of samples without alcohol	36

FLOUR.

Number of samples	4
Number of samples good	1
Number of samples deficient	3
Number of submitted samples	1
Number of submitted samples good.....	0
Number of submitted samples deficient.	1

OIL AND GASOLINE.

Hon B. Harris, Commissioner of Agriculture, Commerce and Industries, Columbia, S. C.

Dear Sir: I have the honor to submit for your approval, this the Sixth Annual Report of gasoline and kerosene for the year ending December 31, 1919.

The inspection of gasoline and kerosene has been pushed as vigorously as heretofore and it is one of the most thoroughly enforced of any of the laws coming under this department. Since its enactment South Carolina has been given the best grade of gasoline and oil offered to any State, without any extra cost, as was maintained by the oil men when the law was first introduced in the Legislature.

The greater part of the petroleum oils shipped into South Carolina come by boat through Charleston, and with one inspector stationed there it is possible to test every shipment before it gets to the local dealers, thus giving them the greatest protection possible. The oil companies and local dealers have cooperated heartily with this Department in its effort to give the people of South Carolina a high grade product.

During the past year much information has been given other States in framing laws for the inspection and analysis of gasoline and oil. One chemist from a distant State visited our laboratory with a view of adopting the same methods in his laboratory. We sincerely hope that the time is not far when a uniform standard will be adopted by all of the States. Several prominent oil men visited our laboratory and commented favorably upon the methods and apparatus used in testing petroleum products.

GASOLINE.

During the great crisis through which we have just past it became necessary to reduce our standard of gasoline from 8 per cent. residue to 32 per cent. residue in order to increase the supply at the least cost possible. During this period some of the gasoline shipped into South Carolina could scarcely be used at all and if it had not been considered a war measure our people would not have stood for such stuff to be sold in South Carolina for gas-

oline. Immediately after the armistice was signed we raised the standard from 32 per cent. residue to 24 per cent. and expect to get back to our original high standard as soon as possible. We do not believe in shutting our market to any grade of petroleum, but we do believe in demanding that it be labelled and sold so that the consumer will not be misled.

KEROSENE.

This Department has less trouble with deficient kerosene samples than any other product we handle. A glance at the summary will show that out of a total of nine hundred samples tested but few had to be condemned, and we are sure that the manufacturers did not intentionally attempt to violate the law. While this is nearly always a good product, it is necessary that it should be carefully inspected as a small per cent. of gasoline would give a low flash point and likely cause danger to the person handling it. The standards on kerosene have remained the same throughout the year and can be easily met without hardships.

NAPHTHA.

Naphtha is a substitute for gasoline and contains from 16 per cent. to 50 per cent. kerosene and heavy oils. When naphtha is used the purchaser has no idea what is the quality of the product unless he himself has a test made. This is a product that contains an indefinite amount of kerosene and heavier oils. If a person desires naphtha he should learn the residue of the product before purchasing or else he might be given a product so low as to cause considerable trouble.

Respectfully submitted,

A. C. SUMMERS,

State Chemist.

SAMPLES OF GASOLINE.

Number of samples of gasoline collected from the following towns during the year 1919:

Abbeville	20	Barnwell	21
Aiken	36	Beaufort	4
Allendale	17	Belton	13
Anderson	48	Bennettsville	31
Andrews	3	Bishopville	11
Alcolu	1	Bethune	2
Angelus	1	Blacksburg	2
		Blackville	19
Ballentine	1	Blackstock	1
Bamberg	17	Blaney	1
Batesburg	40	Blythewood	1

Bowman	3	Hampton	7
Bradley	3	Hardeeville	1
Branchville	8	Hartsville	11
		Heath Springs	4
Camden	33	Hickory Grove	3
Cameron	3	Hodges	4
Carlisle	2	Holly Hill	3
Calhoun Falls	3	Honea Path	3
Charleston	144	Hopkins	2
Chapin	1		
Chappells	2	Irmo	1
Cheraw	26	Iva	2
Chester	35		
Chesterfield	9	Jefferson	11
Chesnee	2	Johnston	28
Cherokee Falls	1	Jonesville	3
Central	4		
Clemson College	1	Kershaw	3
Clinton	20	Kingstree	4
Clio	6		
Clover	4	Lancaster	18
Columbia	40	Landrum	2
Conway	7	Lanes	1
Cottageville	1	Langley	5
Cowpens	2	Lake City	4
		Laurens	19
Dalzell	2	Lamar	2
Darlington	25	Leesville	19
Denmark	12	Latta	9
Dillon	30	Lexington	4
Donalds	6	Lewis Turnout	1
Due West	4	Liberty	3
		Little Mountain	3
Easley	9	Little Rock	4
Eastover	4	Lodge	2
Edgefield	10	Loris	1
Ehrhardt	2	Lowndesville	1
Elloree	4	Lowrys ville	1
Elliott	11	Lucknow	1
Enoree	2	Lydia	1
Estill	16	Lynchburg	5
Eutawville	1	Lugoff	3
Fairfax	10	Manning	17
Fair Play	1	Marion	21
Filbert	1	Mayesville	2
Florence	38	Monetta	1
Fort Motte	2	Mullins	12
		Middendorf	1
Gable	1	Mount Carmel	2
Gadsden	2	McBee	4
Gaffney	22	McColl	8
Georgetown	5	McConnellville	1
Gilbert	1	McCormick	7
Graniteville	3	Mt. Croghan	4
Greeleyville	2		
Green Pond	2	Neeses	1
Greenville	51	Newberry	21
Greenwood	43	Ninety-Six	4
Greer	13	North	7
Great Falls	1	North Augusta	13
Hagood	1	Norway	3

Oates	1	St. Stephens	1
Olar	1	Stokes Bridge	1
Orangeburg	34	St. Charles	1
		St. Matthews	12
Pacolet	2	Simpsonville	1
Pageland	11	Summerville	2
Pamplico	7	Sumter	40
Patrick's	1	St. George	5
Pelzer	1	Swansea	1
Pendleton	3		
Piedmont	5	Tatum	1
Pickens	4	Timmons'ville	5
Pomaria	3	Tirzah	1
Port Royal	1	Townsville	1
Prosperity	10	Trenton	7
Rembert	2	Troy	3
Ridgeland	1		
Ridge Spring	8	Union	33
Ridgeville	1		
Ridgeway	1	Varnville	14
Rock Hill	37		
Rowesville	1	Wagener	20
Ruby	1	Wards	4
Round	1	Ware Shoals	2
Reevesville	1	Walhalla	5
		Walterboro	5
Salley	1	Wedgefield	1
Saluda	9	Westminster	3
Sandy Springs	2	Westville	1
Seneca	34	Williamston	5
Sharon	2	Williston	6
Society Hill	1	Winnaboro	2
Springfield	4	Woodruff	8
Spartanburg	45		
Starr	2	York	9

Samples of gasoline collected from the following companies during the year 1919:

	Total.	Good.	Deficient.
Standard Oil Co., New Jersey	739	722	17
Gulf Refining Co., Jacksonville, Fla.	354	354	0
The Texas Co., Port Arthur, Texas	397	394	3
Acme Petroleum Co., Chicago, Ill	3	3	0
Anderson & Gustafson, Chicago, Ill	16	16	0
Ard & Bradford, Sumter, S. C.	1	1	0
Charleston Oil Co., Charleston, S. C.	9	9	0
Empire Refining Co., Tulsa, Okla.	140	139	1
Empire Refining Co., Okmulgee, Okla.	7	7	0
Empire Refining Co., Gainesville, Texas ..	2	2	0
Empire Refining Co., Cushing, Okla.	3	3	0
Economy Oil Co., Charleston, S. C.	1	1	0
Equity Oil Co., Shreveport, La.	1	1	0
Filtered Oil Co., Allendale, S. C.	5	5	0
Filtered Oil Co., Varnville, S. C.	1	1	0
Filtered Oil Co., Estill, S. C.	2	2	0
Hercules Petroleum Co., Dallas, Texas	1	1	0
Louisiana Oil Co., Shreveport, La.	2	2	0
Louisiana Oil Refining Corp., Shreveport La. ..	3	2	1
Nesbitt & Wilson, Lancaster, S. C.	3	3	0

	Total.	Good.	Deficient.
Ozark Oil & Gas Co., Tulsa, Okla.	2	1	1
Petroleum Oil Co., Anderson, S. C.	5	5	0
Petroleum Oil Co., Greenville, S. C.	1	1	0
Producers Refining Co., Tulsa, Okla.	17	17	0
Producers Refining Co., Gainesville, Texas	1	1	0
Peoples Oil Co., North Augusta, S. C.	8	7	1
Panhandle Refining Co., Wichita Falls, Texas..	2	2	0
Southern States Oil Co., Wagener, S. C.	1	1	0
Southern States Oil Co., Aiken, S. C.	9	9	0
Southern States Oil Co., Barnwell, S. C.	1	1	0
Summer Bros. Co., Newberry, S. C.	2	2	0
Sunshine State Oil & Ref. Co., Wichita Falls, Tex.	1	1	0
G. L. Sansbury & Sons, Lake City, S. C.	1	1	0
Terminal Refining Co., New Wilson, Okla.	2	2	0
Triangle Sales Co., Tulsa, Okla.	1	1	0
Union Petroleum Co., Chicago, Ill.	1	1	0
Samples of gasoline having no manufacturer stated:			
	43	43	0
Samples with two or more manufacturers given:			
Special gasolines:			
	5	5	0
	33	25	8

KEROSENE.

Number of samples of kerosene collected from the following towns during the year 1919:

Abbeville	7	Elliott	7
Aiken	18	Estill	11
Allendale	8		
Anderson	38	Fairfax	3
		Florence	25
Bamberg	11	Fountain Inn	1
Barnwell	14		
Batesburg	22	Gaffney	17
Beaufort	5	Georgetown	6
Belton	9	Greenville	45
Bennettsville	21	Greenwood	27
Bishopville	11	Greer	4
Blackville	7		
Branchville	1	Hampton	2
		Hartsville	5
Camden	15	Holly Hill	1
Carlisle	1	Honea Path	2
Central	1		
Charleston	49	Jefferson	5
Cheraw	13	Johnston	16
Chester	20		
Clinton	11	Kershaw	1
Clio	3	Kingstree	1
Columbia	7		
Conway	2	Lake City	2
		Lancaster	12
Darlington	20	Laurens	13
Denmark	3	Lexington	1
Dillon	17	Lykesland	1
Easley	6	Manning	12
Edgefield	2	Marion	3

McBee	1	Spartanburg	38
McCormick	6	Sumter	26
Mullins	4	Swansea	3
		St. Matthews	9
Newberry	16	St. Stephens	1
North	5		
North Augusta	12	Union	29
Norway	2		
		Varnville	3
Orangeburg	22		
		Wagener	7
Pageland	5	Walhalla	3
Pamplico	4	Ware Shoals	1
Pelzer	1	Winnsboro	2
Pendleton	1	Woodruff	7
Rock Hill	23		
Ruby	1	York	9
Saluda	2		
Seneca	18		

KEROSENE.

Samples of kerosene collected from the following manufacturers during the year 1919:

	Total.	Good.	Deficient.
Standard Oil Co., New Jersey	347	346	1
Gulf Refining Co., Jacksonville, Fla.	156	156	0
The Texas Co., Port Arthur, Texas	187	187	0
Anderson & Gustafson, Chicago, Ill.	1	1	0
Consumers Oil Co., Pamplico, S. C.	1	1	0
Empire Refining Co., Tulsa, Okla.	54	54	0
Empire Refining Co., Gainesville, Texas....	1	1	0
Equity Oil Co., Shreveport, La.	1	1	0
Louisiana Oil Refining Corp., Shreveport, La...	3	3	0
Louisiana Oil Co., Shreveport, La.	1	1	0
Peoples Oil Co., N. Augusta, S. C.	7	7	0
Petroleum Oil Co., Anderson, S. C.	1	1	0
Producers Refining Co., Gainesville, Texas	2	2	0
Producers Refining Co., Tulsa, Okla.	30	30	0
Southern States Oil Co., Alken, S. C.	1	1	0
Standard Oil Co., Kentucky	1	1	0
Standard Asphalt & Ref. Co., Independence, Kan.	1	1	0
Universal Petroleum Co., Tulsa, Okla.	1	0	1
Samples with no manufacturer stated	2	2	0
Special kerosene samples	2	1	1

EMBARGO ON POTASH.

As there has been so much discussion of the use and effect of potash salts sold by American miners to the farmers of South Carolina, I will go somewhat at length into this matter. The office of the commission is not charged with the duty of analyzing commercial fertilizers, we have never done so and have always referred inquiries to Clemson College. In case citizens preferred the services of private laboratories, we directed them to registered chemists in this State. This will dispose of a malicious or ignorant statement that my office has been analyzing fertilizers.

The Commissioner is charged specifically with the duty of looking into matters affecting the economic (as distinguished from the scientific) side of agriculture. Therefore it was entirely within my duty to give attention to a letter, dated June 25th, which I received from Bright Williamson of Darlington, a former president of the State Bankers' Association and a citizen of the highest probity. Attached to Mr. Williamson's letter, Exhibit A, was a summary and statement of cases by J. M. Napier, agent of the Extension Division of Clemson College. That statement is shown in Exhibit B. He also insisted upon the State Department of Agriculture making a thorough investigation regarding the loss to the farmers of Darlington County with reference to ascertaining the cause of same. Accordingly I wrote Mr. Williamson on June 27th, the letter which is shown in Exhibit C.

Mr. Summers, the chief chemist of this department and a practical and practicing farmer who is well acquainted with the soils in Darlington County where he has a farm, went to see the places indicated by Mr. Williamson and the Clemson demonstration agent. He made no analysis of fertilizers before their use, as is contemplated under the statute directing how fertilizers must be inspected and analyzed. He made some laboratory tests for the purpose of substantiating or disproving any physical evidences which might have come to his attention. Upon his return to Columbia, Mr. Summers reported to me that the damage and loss to the tobacco and cotton farmers through the use of American potash from Searles Lake had run up into the tens of

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TOBACCO BEDS WERE "STRUCK OFF" AND 125 POUNDS OF POTASH USED HERE.

thousands of dollars. When I announced this fact in the newspapers it made a great stir over the State. Therefore, I decided to make a more thorough inquiry and to have photographs made as indestructible evidence of the existing conditions.

My attention was first called to the apparently bad effects of this potash by J. Skottowe Wannamaker, who presented to the American Cotton Association in New Orleans a resolution asking for the embargo to be lifted so that foreign potash might be brought into this country. Upon the opposition of some of his own delegation, who were moved by sentimental reasons, Mr. Wannamaker's resolution failed. He then pointed out the harmful effects of the American potash, and I was not surprised by the reports of Mr. Summers, who, as I have said, went to represent me as commissioner and not in his own capacity as State Chemist.

The photographs that were made were offered to the newspapers for publication and appeared in the Columbia State. I have never heard the evidence disputed, although I have had general denials of the ill effects of the potash. The potash acted freakishly, I am informed, but there was such a mass of cumulative evidence of its destructibility that the farmers who used it know what caused their crops to wilt and die, and subsequent replanting to do the same way.

The action of the potash is described in Exhibit D, which is Dr. Summers' report to me and by me given publication; and Exhibit E, which is a corroborative newspaper account from Clemson College, Professor Blackwell.

CONDEMNED BY THE UNITED STATES GOVERNMENT.

I may say just here that Commissioner W. A. Graham of North Carolina has informed me that trona potash did serious damage in North Carolina in some places. The destructive ingredient was borax, and I will say that our chemical laboratory found quite a large per cent. in some samples, and a small amount in other samples, but nearly all submitted contained more than the percentage allowed under the following order from the United States Secretary of Agriculture just at the close of the year:

"ORDER CONCERNING BORAX IN MIXED FERTILIZER.

"Pursuant to the authority conferred on me by the proclamation and regulations of the President issued on February 25, 1918, relating to persons licensed to handle or deal in fertilizers

or fertilizer ingredients under the Control Act approved August 10, 1917, it is hereby ordered:

"That hereafter no licensee handling or dealing in fertilizers or fertilizer ingredients shall sell for application to the soil any mixed fertilizer which contains more than one-tenth of 1 per cent. of boron expressed as anhydrous borax unless the container thereof be marked, tagged, branded, or labeled so as to show plainly and conspicuously as part of the analysis the percentage of borax present.

"Signed in the District of Columbia this 6th day of December, 1919.

"D. F. HOUSTON,

"Secretary of Agriculture."

I am also appending as Exhibit F extracts from the report of the Chemical Laboratories of the Agricultural Department of Perdue University, Lafayette, Ind., showing that three years ago trona potash was found to be injurious in that State and that the users who had been damaged had had restitution made.

The matter of lifting the embargo upon the importation of German Kainit came before the War Trade Board in Washington on July 27th. By invitation of Vance McCormick, Chairman, and Senator E. D. Smith, I sent to Washington the information which I had gathered and presented the photographic exhibits. Potato farmers from Maine and New Jersey who were there protesting against the American potash were very much interested in our photographs and stated that their fields had had similar experience.

The case of the makers or distributors of the American potash was presented very forcefully by Col. Myron Parker. He was ably assisted by the officials of the American potash industry, including Mr. Brown, who had been engaged by the United States Department of Agriculture to locate potash in this country. Colonel Parker quoted Dr. Francis L. Parker of Charleston, and Dr. R. N. Brackett of Clemson College to show that the potash was not injurious.

The potato farmers from Aroostook County, Maine, and from New Jersey stated their grievances against American potash. These were two—that the potash didn't help and in fact injured their crops, and secondly that the American potash distributors had been charging \$5.00 a unit when they had no competition and now were afraid of the German article because it is offered



WHERE 150 TO 200 POUNDS WERE USED.



TWO ROWS OF PEANUTS WITHOUT USE OF TRONA POTASH. REMAINDER OF FIELD WAS GIVEN 75 TO 100 POUNDS TO THE ACRE.

at \$1.50 a unit. The American dealers offered to cut their price to \$2.50 a unit to meet competition.

Senator E. D. Smith made the statement that South Carolina is potash hungry and has been for three years. Nearly all of the salts in our soil had been exhausted during the world war when German Kainit was unobtainable. He submitted that all of the German potash that could be shipped and all of the American that could be distributed would yet fall short of the needs of the lands of South Carolina.

The War Trade Board in a few days announced that German potash could be brought to this country, and 13 vessels loaded in part with Kainit and pyrites during the first week in January. See Exhibit H.

That is the connection with the trona potash matter. I am proud of the assistance given by the department through Mr. Summers to the people of the State. In fact, if we were instrumental, as I believe we were, in getting German and French potash shipped into the country, I am proud of the fact and think that that act alone justifies the existence of this department regardless of all other regulatory and economic work that we have undertaken during the year.

It was at the suggestion of Mr. Williamson, Mr. Napier, and others that we informed the public of what we had found in Darlington and Orangeburg and Lexington Counties, where we were invited to look over the field.

Hon. W. A. Graham, Commissioner of Agriculture of North Carolina, writes me: "The principal injury from borax last year in this State was done near Selma in Johnston County, about 20 miles from here, and in Bertie County. There was considerable complaint made by the tobacco growers around Mt. Airy, but none of these had used borax and consequently their complaints were not validated."

EXHIBIT A.

Darlington, S. C., June 25th, 1919.

Hon. B. Harris, Commissioner of Agriculture, Columbia, S. C.

Dear Sir: The result of the use of domestic potash on tobacco and cotton showing up now is most alarming.

Where 75 pounds per acre of K₂O was used on tobacco there is practically none, and the effect is serious on cotton. Where

40 to 50 pounds K₂O was used there is generally about one-half stand of tobacco. Where smaller quantities were used the effect is not so noticeable.

In view of the proposed excessive tariff on imported potash, I would advise you to send men into the field to examine and gather evidence and take pictures for comparison.

Mr. Napier, Farm Demonstrating Agent, has been at work getting data for several days, and I have made personal inspections of the condition. The evidence of the poisonous and disastrous results of the use of potash is positive, overwhelming and spectacular.

I have written a similar letter to Clemson.

Yours truly,

BRIGHT WILLIAMSON.

EXHIBIT B.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, STATE OF SOUTH CAROLINA.

Clemson Agricultural College
of South Carolina and
United States Department of
Agriculture Cooperating.

Extension Division
Clemson Agricultural College
of South Carolina.

Results of the use of American Potash on certain farms in Darlington County, S. C.:

Farm No. 1—L. B. Warr, six miles east of Darlington.

In a mixture containing 75 pounds of potash per acre, tobacco is only about 30% of what it should be.

In a mixture containing 125 pounds of potash per acre, tobacco is only about 10% of what it should be.

Where manufacture fertilizer was used the tobacco is good.

Two acres of tobacco plowed up and planted to cotton, shows 66% of the cotton to be dead. This field had potash at the rate of 75 pounds per acre.

Farm No. 2—William Graham, eight miles north of Darlington.

Where potash was used at the rate of 100 pounds per acre, tobacco 25% of what it should be. In same field where manufactured fertilizer was used the tobacco is good.

Farm No. 3—William Coleman, eight miles north of Darlington.

Where manufactured fertilizer was used, tobacco unusually good. Where potash used at the rate of about 75 pounds per acre,

tobacco is about 40% of what it should be. Where potash used at the rate of about 100 pounds per acre, tobacco is about 25% of what it should be.

Farm No. 4—Walter Jackson, nine miles north of Darlington.

Where manufactured fertilizer used, tobacco good. Where potash used at the rate of about 110 pounds per acre, tobacco not one-half as good.

Farm No. 5—Bright Moody, ten miles north of Darlington.

Where manufactured fertilizer was used tobacco is unusually good. Where potash used at rate of about 110 pounds per acre, tobacco is about 25% of what it should be.

Farm No. 6—E. E. McGill, five miles south of Darlington.

Where manufactured fertilizer was used, cotton is good. Where potash was used at the rate of 100 pounds per acre, cotton is about one-half as good.

Farm No. 7—L. M. Lawson, ten miles west of Darlington.

Where about 40 pounds per acre of potash was used, cotton is fair. Where about 90 pounds per acre of potash was used, cotton is about one-half as good as where 40 pounds was used.

Farm No. 8—J. A. McLeod, five miles east of Darlington.

Where manufactured fertilizer was used, cotton is good. Where potash was used cotton is hardly one-half as good.

A great many farms will show the results that I have reported on. From observation and inquiries it seems that potash is more harmful to tobacco than it is to cotton. Every tobacco field that I have made a report on has been reset from three to four times, some fields have been reset even a greater number of times. At the present time there are many small and irregular plants, great gaps often occurring. This is also true of the cotton.

It seems that more harm has been done on light land than on heavier soils.

Where tobacco plants were put deepest into the soil, the harm has been greatest.

EXHIBIT C.

Hon. Bright Williamson, Darlington, S. C.

Dear Sir: Yours of June 25 with enclosure regarding domestic potash used on tobacco and cotton has been received. I am sorry to hear of the damage which it has done.

I will have our State Chemist, Mr. A. C. Summers, to go down to Darlington on July 1 and make an investigation of this matter. I think this will help us to make a better fight against the bill that is now up in Congress. A representative body of the Commissioners of Agriculture will go to Washington just as soon as the meeting is over in New Orleans to see what can be done in regard to the potash bill.

I would be glad if you would arrange with Mr. Napier to be in Darlington on July 1 so that he may accompany Mr. Summers into the fields and make investigations as this seems to be a serious matter and a costly one to the farmers of the State. Every effort should be put forth to correct these frauds which are being perpetrated upon the people.

At any time that this office can be of any service to the farmers of your county do not hesitate to let me know and I will do all in my power to help.

Very truly yours,

B. HARRIS, Commissioner.

EXHIBIT D.

DARLINGTON CROPS RUINED BY POTASH

*Cotton and Tobacco Fields Laid Waste—Great Loss Involved—
Domestic Potash Cause of the Trouble—Appeal Made for
German Product.*

"I found a calamitous condition in a large section of Darlington County which I visited," said Dr. A. C. Summers Saturday upon his return from a trip of inspection which he made as State Chemist at the request of Commissioner Harris. It had been reported to the State Department of Agriculture that a large number of farmers in Darlington County had suffered because of the purchase and use of the so-called American potash, and the Department was urged by Bright Williamson to make some investigation.

Mr. Williamson, who is a banker and plants extensively himself, had made a preliminary investigation to see if there were any cause for so many different fields of tobacco and cotton dying and withering. In his letter informing the Department Mr. Williamson said, "the result of the use of domestic potash on tobacco and cotton showing up now is most alarming. Where



THIS GIVES AN IDEA OF THE EFFECT OF THIS POTASH IN DARLINGTON COUNTY, WHERE USED FREELY AND MODERATELY.

75 pounds per acre of K₂O was used on tobacco there is practically none, and the effect is serious on cotton. Where 40 to 50 pounds of K₂O was used there is generally about one-half stand of tobacco. Where smaller quantities of K₂O were used, the effect is not noticeable."

Dr. Summers states that Mr. Williamson presented the matter conservatively. The loss in Darlington County alone will run up into the hundreds of thousands. Other counties in the State have not reported and they may not be affected as seriously, but in Darlington, through the activity of J. M. Napier and Mr. Williamson, an effort has been made to locate all of the fields affected. There have been individual cases reported from other counties.

Dr. Summers endorses the statement of Mr. Williamson that "the evidence of the poisonous and disastrous results of the use of potash is positive, overwhelming and spectacular." It can not be alleged that the widespread destruction of plant life is due to too much moisture, for by a process of elimination it was shown that one part of a field where the potash had been spread has suffered greatly while in another part where a very small percentage of potash was used the plant life was healthy.

"I never witnessed such ruin in the fields from causes other than the most destructive hail storms," said Dr. Summers. "One farmer had lost all of his tobacco planting on one piece of land and he then plowed it and planted cotton. The cotton germinated and grew very well until the roots came in contact with the potash in the soil and then plants died. This farmer is trying cowpeas to see if that crop will produce.

"I think that the poison will be eradicated from the soil in the course of a year. I observed that where there had been heavy rains since the putting down of the potash that the poison seemed to have leached out to some extent. We are making experiments in our laboratories and will know by Monday more of the chemical nature of this American potash.

"At a meeting of the cotton farmers in New Orleans about two months ago an effort was made to get the government not to put a heavy tariff upon German potash. This effort was killed by the agency of the men interested in American potash. A meeting of Southern Commissioners of Agriculture will be held in Washington at an early date to protest against a heavy duty upon German potash. Our farmers must have potash, and if the domestic brand is poison to the soil we must find a corrective or

be permitted to buy the German potash (which we can not do at the prohibitive prices proposed)."

Dr. Summers declared that the appearance of some of the fields in Darlington County was really pitiful, for it is well known that Darlington has some of the finest farm lands in the State and they have been brought up to a high stage of productivity.

EXHIBIT E.

TRONA POTASH IS CAUSE OF TROUBLE.

Clemson College Reports on Investigation of Crop Damage.

Clemson College, July 10.—Clemson College authorities have investigated the potash situation which has given trouble in the Pee Dee section, and have traced the matter to its source in the use of trona potash, which contains impurities injurious to crops.

Bright Williamson, a prominent banker and farmer of Darlington, and John Napier, county agent of Darlington County, found trouble with potash in that county recently and reported the matter to Clemson College. Prof. C. P. Blackwell, agronomist, and J. L. Seal, plant pathologist, went immediately to Darlington and Florence Counties where they met Mr. W. W. Garner, chief of the office of tobacco and plant nutrition investigations. The three studied the situation in the fields of Darlington, Florence and Dillon Counties.

They agreed that the very erratic seasons have caused poor crop conditions in parts of Florence County, which some have erroneously attributed to potash. In Darlington County, however, where trona potash from Searl Lake, California, purchased through a Charleston broker, was used, very serious injuries were observed on a number of farms.

The Clemson and government experts were convinced from field examinations that this trona potash is responsible for the trouble. Thousands of acres of crops in Darlington have been destroyed.

Other sources of American potash have given good results so far as investigations show. Since nearly all the soils of the coastal plains section of the State are in need of potash, it would be unfortunate to have all potash indiscriminately condemned along with this one source.

Director Barre announces that experiments will be begun at once at the Pee Dee station to obtain all possible information on the effect of this material on plant growth. Further study will be made in Darlington fields to assist farmers in securing data upon which to base claims for damages. These investigations will be reported as soon as the data is available. The legal aspects of the case will be considered by the board of fertilizer control.

There has probably been injury to crops from this same source in other sections of the State, and if farmers think they have this trouble they should consult their county agents, all of whom have been posted about the matter.

Late in June Director H. W. Barre of the South Carolina Experiment Station attended a potato conference on Long Island to examine tests of all sources of domestic potash. Trona potash showed marked injury to potato plants, and the conference developed the fact that similar trouble was being experienced in North Carolina with cotton, tobacco and corn. Similar trouble seems to have been experienced in several localities along the Atlantic coast.

For the guidance of farmers, Professor Blackwell gives the field symptoms as follows: In the case of cotton and corn germination is retarded or prevented. Soon after plants which do germinate are above ground, they turn white or yellow and die. Tobacco when transplanted turns light and soon does. The roots are found to be undeveloped and many dead. The trouble is worse where tobacco beds have been knocked down, as this brings the roots in closer contact with the poisonous substances. With all crops the trouble is worse on light sandy soils than on heavier soils.

EXHIBIT G.

Following is an article in the Weekly News Letter, official publication of the United States Department of Agriculture, December 24, 1919, too late to be of service to the farmers of our State for the past season, but corroborating the findings rendered by this Department six months previously and by Perdue University some years ago:

**FERTILIZER CONTAINING BORAX
REQUIRES CARE IN ITS USE**

Apparent Limits of Safety Determined by Investigations—Comprehensive Survey Expected to Determine Whether Commercial Grades Carry Injurious Amounts.

The United States Department of Agriculture issues the following statement:

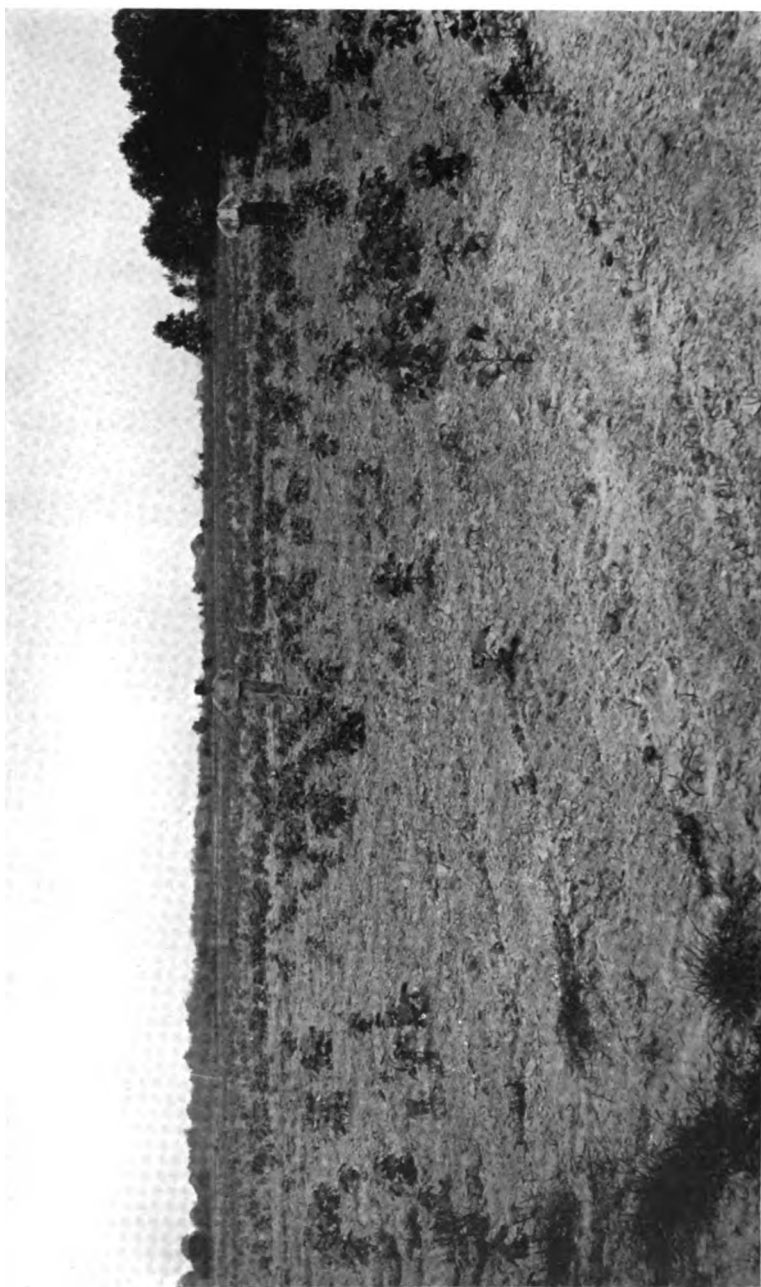
The disastrous results experienced in 1919 by farmers in some sections of the country, where fertilizers containing borax were unwittingly applied, has aroused apprehension that the experience may be repeated in the spring of 1920. This substance, which is highly toxic to crop plants, is not known to have been present in appreciable quantities in the materials commercially available for fertilizer uses prior to the war.

The scarcity of potash during the war, which still continues to a considerable extent, brought into use a product, derived from at least two new sources, which carried enough borax to be harmful to crops if applied in the usual quantities by the methods generally practiced. If there were available sufficient supplies of noncontaminated material to meet the agricultural needs of the country, it would probably be safer for farmers to reject all fertilizers containing appreciable amounts of borax, except in those cases where the applications are relatively light and can be broadcasted or very thoroughly mixed with the soil.

It appears, however, that a large proportion of the potash salts available for fertilizer use in the spring of 1920 contains more or less borax. Recently, also, it has been discovered that nitrate of soda as imported contains some borax.

Experiments Conducted.

As these conditions have become known, the United States Department of Agriculture and some of the State experiment stations have been actively studying the subject and conducting experiments with a view to determine the extent to which fertilizers containing borax may safely be applied. While the observations and tests of a single season can not be regarded as final, it appears to be well established that, under intensive use, where the fertilizer is put in the row or hill and the seeds or plants are brought into virtual contact with it, about 2 pounds per acre



SHOWING A FIELD WHERE 100 POUNDS OF POTASH WERE USED UNDER COTTON.

of anhydrous borax marks the limit of safety. Where it is broadcast or thoroughly mixed with the soil, 10 pounds of anhydrous borax per acre may be regarded as within the limit of safety.

The department is now making a very comprehensive survey of all the ordinary fertilizer materials with a view to ascertain whether any of the commercial grades carry injurious amounts of borax or whether mixtures of any two or more of these materials will give rise to excessive quantities of borax in mixed fertilizers.

In the meantime, and while these investigations are proceeding, in order to protect the people of the United States and to conserve the food supply, the department, on October 24, 1919, addressed a letter to all brokers, fertilizer manufacturers, and dry mixers, who are under license under the Control Act of August 10, 1917, stating that the department would not permit more than 2 pounds per ton of anhydrous borax in mixed fertilizers, unless the presence of an excess of this amount is plainly indicated on the container. It was further stated that the purpose of this regulation was to insure that no fertilizer application which would add more than 2 pounds of borax to the acre would be made by farmers without their knowledge.

The Secretary of Agriculture, on December 6, 1919, issued a formal order prohibiting the sale of mixed fertilizer containing borax in excess of one-tenth of 1 per cent., unless the containers are so labeled as to show the percentage of borax present.

Observing Safety Limit.

This action was designed to protect the farmer in the use of as much as a ton of fertilizer per acre, applied in the drill, or to give him notice that the material contained borax. If the fertilizer contains more than 2 pounds of borax per ton, it is thought that it may be safely used, provided proper attention is given to the method of application and the amount applied per acre. If it contains 0.2 per cent. of borax, 1,000 pounds per acre may be used in the drill without exceeding the 2 pounds per acre, the indicated limit of tolerance. If it contains 0.4 per cent., 500 pounds in the drill would not exceed the apparent limit of safety.

If, on the other hand, the fertilizer is broadcast and contains 0.5 per cent. of borax, then a ton may be applied broadcast without exceeding the limit of 10 pounds per acre of anhydrous borax, the indicated limit of safety for this mode of application. If

it contains 1 per cent. of borax, then an application of 1,000 pounds per acre broadcast could be made without exceeding the indicated limit of safety for this method.

It is expected that, since the producers of raw fertilizer materials have been advised of the vital importance of this matter, they will hereafter pay the strictest attention to the method of preparing the materials and to the purification of them, so far as possible, through the elimination of borax. It is also evident that the manufacturers, for their own protection, will buy materials for their different grades of fertilizers on the basis of their borax contents, as they now do for the fertilizer constituents of which their different brands are composed. A strict compliance on the part of manufacturers with the department's ruling, and the intelligent use of the fertilizers in the manner above indicated, should protect the farmers from loss and damage to their crops while the whole matter is being further investigated by the department and by the State experiment stations.

EXHIBIT H.

THIRTEEN VESSELS TO COME NEXT WEEK.

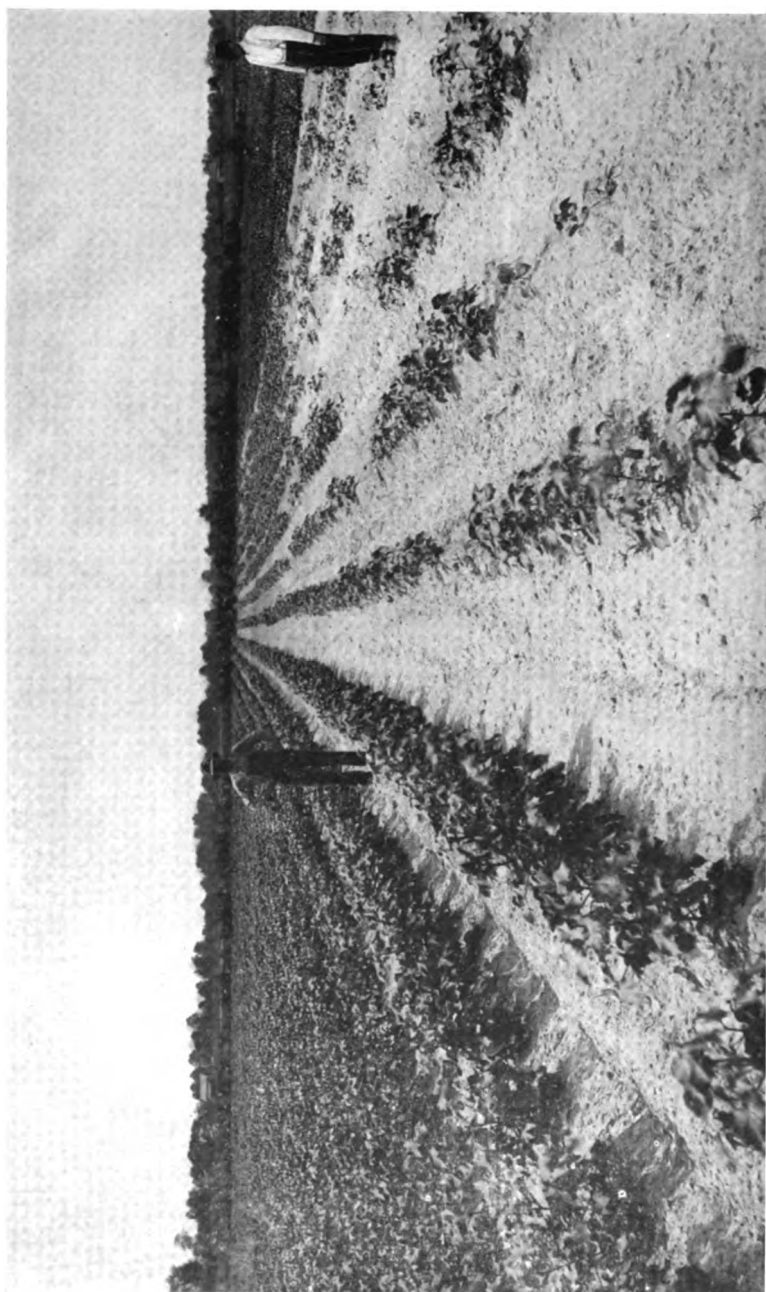
(From the Charleston News and Courier, Jan. 3, 1920.)

With thirteen cargo-laden vessels due here before Saturday of next week, and with several steamships scheduled to come here to load various cargoes, the next few days promise to be the busiest in shipping circles in many days.

Of the thirteen loaded vessels, six are bringing cargoes of kainit from European ports. Since the outbreak of the war in Europe in 1914 kainit has been one of the rarest materials imported here. For more than five years not a vessel bearing this material docked in Charleston harbor, and not more than three cargoes have been received since the trade was resumed about five months ago.

The kainit-laden vessels are the steamships Ceres, Themisto and Orestis, consigned to Street Brothers; the West Errol and the Knight's Island, to the Carolina Company, and the Phecta, to Frederick Richards.

The total amount of kainit to be brought by these vessels was not ascertained yesterday.



SHOWING COMPARISON WHERE NO POTASH WAS USED UNDER COTTON WITH PART
WHERE POTASH WAS USED. OTHERWISE THE FERTILIZER WAS THE SAME.

Five vessels are en route here with fertilizer materials. They are the Assinippi, the John's County and the West Piew, to the Carolina Company; the schooner Marguerite Wemyss and the steamer Lord Downshire, to Street Brothers.

All of these fertilizer material bearing vessels are coming from South American ports.

The Assinippi is one of the steamships of the South Atlantic Maritime Corporation, and on her outward bound voyage a few months ago she loaded several hundred sacks of flour at this port for South American ports, thus taking the first shipment from here by any vessel of the co-operative shipping company representing the five South Atlantic ports.

Pyrites, from Huelva, Spain, form the cargo of the two other vessels expected here in the immediate future. Both vessels, the steamships Blair and Coquitt, are consigned to Street Brothers.

The Coquitt sailed from here on her last outward trip with a cargo of cotton.

Among the vessels due here in the next few days is the Onekama, one of the vessels allocated to the Carolina Line. She is now loading part cargo of phosphate rock at Fernandina for Rotterdam and will come here to load cotton for Ghent.

NORTH CAROLINA'S ACTION.

The Commissioner of North Carolina on the 25th of November issued the following order:

"No manufacturer or agent will be permitted to register for sale or sell in this State any fertilizer or fertilizer material carrying borax or any compound of boron when present in larger amounts than are naturally and usually found in the common or usual materials used in fertilizers before the war period, such as acid phosphate, nitrate of soda, nitrate of potash, fish scrap, blood, tankages, cotton seed meal, and similar animal and vegetable materials, and the potash-carrying materials used in the pre-war period.

"The Department is investigating the effect of borax on crops and it hopes later to make a more definite ruling as to the amount of borax, or the equivalent of boron compounds, which may be present in fertilizer or fertilizer materials, and this general ruling is made at this time to prevent the registration and sale

in the State of any of the newer fertilizer materials which may contain borax in substantially larger amounts than are present in the usual run of fertilizer materials referred to above.

"It will be necessary for manufacturers or agents in making registrations to certify that their materials or fertilizers do not, and will not, contain borax in excess of that which is found to be present normally in the run of fertilizer materials used prior to the war and referred to above."

CROP PESTS.

For each of several years past the Department has had a report an "Injurious Insect Pests of Cereal and Forage Crops of South Carolina." This has been prepared by Philip Luginbill, of the United States Bureau of Entomology, in charge of the field station at Columbia. Dr. Luginbill this year makes his report upon the insects in general, and follows with an elaborate discussion of the pest known as the Oat Aphis. Following is his general report:

"In accordance with your request, I am giving below a few notes on the important insects injurious to cereal and forage crops in South Carolina during the year 1918.

"Insect damage to crops in general was not as great this year as was the case last year. The unusually cold weather which prevailed during the early part of the year apparently killed many insects. Certain insects in this region have no definite hibernation period, and will come out to feed during warm days, even in midwinter. A good example of this fact is the adult of the Southern corn rootworm, which is sometimes more commonly known as the twelve spotted cucumber beetle. This beetle feeds throughout the winter during warm days in this region. In more northerly regions it goes into hibernation. Sudden cold spells, such as occurred during the months of January and February of this year, finds this insect with little or no protection in this latitude, and as a consequence many individuals may perish.

"*Chinch bug* (*Blissus leucopterus* Say). These little bugs have been quite destructive to corn in the upper counties of this State. They were especially bad in the blackjack lands of York County. It has been learned that the 'bugs' had been feeding on wheat, and when this was cut no precautionary measures having been taken to destroy them, they proceeded to adjacent fields of corn, injuring that crop considerably. Experimental work is now being undertaken looking towards the control of this pest in this region.

"*Fall Army Worm or Southern Army Worm* (*Lephygma frugiperda* S. and A.) Young worms belonging to this species were taken from corn during the first week in July. This indicates that the migrant moths reached South Carolina about July 1st,

which corresponds with the date of their arrival on record for six consecutive years. Reports of outbreaks were received at this office about the middle of August. Quite a little injury was done to alfalfa in certain sections. Corn as well as young sorghum suffered to some extent. The caterpillars responsible for this damage belonged to the second generation for the year.

"*Southern Corn Rootworm* (*Diabrotica 12-punctata* Oliv.). Injury to corn by this 'rootworm,' which is better known under the name of budworm in many localities, has not been as great as it was last year. A probable reason for this reduction in amount of damage has been given above. Investigations looking towards the control of this pest of corn are well under way, in fact, it is intended to finish the work during the coming year.

"*Hessian fly* (*Mayetiola destructor* Say). This insect has been reported as damaging wheat in the upper counties of the State. This is the first authentic report of injury by this insect in this State which has reached this office. At various times the writer has been told that this species sometimes injures wheat in that section, but such reports always lacked verification. There is a possibility of confusing this insect with the 'Green Bug,' known among entomologists as *Toxoptera graminum* Rond. Farmers sometimes complain that the Hessian fly has been ruining their oats, but the Hessian fly does not breed in oats, while the 'Green Bug' often affects oats seriously. In fact, it may be considered as a very destructive oat pest in the South, as was evidenced during the spring of 1913, when considerable damage to oats was caused by this insect. Hessian fly is primarily a wheat pest, although it also is an enemy of barley and occasionally injures rye. The Green Bug feeds on wheat, oats, barley, rye and other grain crops, as well as on many of the grasses. The Hessian fly is an entirely different insect from the Green Bug, belonging to a different order of insects. The injury to wheat by Hessian fly is not done by the fly, but by the maggot hatching out from the egg. The eggs are placed by the fly on the upper leaves of the plants. The grubs or maggots feed on the young stem, thereby weakening it very greatly, or even killing it outright. When mature the maggot transforms into a pupa and then is known as a flaxseed, on account of its close resemblance to the seed of that plant. There are at least two generations annually, one emerging as flies in the early spring, and the other in the fall. The spring brood reinfesting the already badly damaged plants. The Green

Bug, on the other hand, produces living young in this region. Apparently the egg stage does not occur here. The young resemble their mothers and feed similarly, extracting the sap from the leaves, thereby causing them to turn yellow, dry up and die.

"Experimental work on the Hessian fly is being planned so that we may learn more about this pest in this district.

"Besides the insects mentioned above, a number of minor pests were encountered in our work during the year among which may be mentioned Flea Beetles (*Chaetocnema* sp.). Cotton Cutworm (*Prodenia ornithogalli* Guen.), and some others."

THE OAT APHIS.

In addition to the notes above, says Dr. Luginbill, "I take pleasure in handing you a paper on a well known oat pest in the South. This is known as the Oat Aphis (*Aphis avenæ* Fab.) and is often found associated with the Green Bug (*Toxoptera graminum* Rond.) on oats. I have given this paper the title of:

On the Biology of *Aphis avenæ* Fab. in the Southeast with Causes Conducive to the Unusual Abundance of this Species as well as *Toxoptera graminum* Rond. During Certain Seasons.

INTRODUCTION.

At the time of the last outbreak of *Toxoptera graminum* on winter oats in the Southeastern States, which occurred during the months of January, February and March, 1913, *Aphis avenæ* also was present in considerable numbers in some of the infested fields assisting in the destruction of the oat crop. Very little was known of the life history and habits of the latter species at that time in this region and consequently when the writer took up a study of *Toxoptera graminum* he also undertook a study of *A. avenæ*. The results of the study of *Toxoptera graminum* have recently been published in the Journal of Agricultural Research (1) in the study of *Aphis avenæ* the writer's aim was to determine (a) the number of generations that may be reared during one calendar; (b) whether or not oviparous forms appeared at any time during the year; (c) the comparative length of life of the individuals constituting the generations; (d) the number of young produced by each individual. These studies all were conducted in the vicinity of Columbia, S. C., and are of especial

interest, in that they were made at a point along the most southern range of occurrence of the species in the Southeastern States. Apparently there is no record of its having been found farther South than the latitude of southern part of South Carolina.

This paper also throws some light upon the cause underlying outbreaks of this species as well as *Toxoptera* in the southeastern district.

(1) Contribution on the Knowledge of *Toxoptera graminum* in the South by Philip Luginbill and A. H. Beyer, *Journal of Agr. Research*, Vol. XIV, No. 2, July 8, 1918, pp. 97-111.

METHOD OF STUDY.

In making a study of the life history of this species the same method was employed as that commonly used in the rearing of aphids, as follows: An individual was taken from the field and placed in a breeding cage. When young were produced one individual was isolated. As soon as this one produced young the first born was isolated and the process repeated for every succeeding generation in this line. This constituted the line of first borns. Similarly the last born of the first one reared in the laboratory was kept and every last born of every succeeding generation originating in this line similarly preserved. This constituted the line of last borns. All intermediate forms were discarded after note was made of the number being produced each day. A careful record was made of the life of the individuals constituting the generations in each series.

The type of breeding cage was of the usual type. It consists of a lantern chimney having a cheese cloth cover placed over an oat plant in a six-inch flower pot. These cages were kept out of doors all the year round in a breeding shelter, as illustrated in the paper on *Toxoptera* published in the *Journal of Agricultural Research* (1).

FEEDING HABITS OF *APHIS AVENAE* AS COMPARED WITH *TOXOPTERA GRAMINUM*.

It was observed in the rearing cages that *A. avenae* has a habit of feeding lower down on the plants than is the case with *T. graminum* during the winter months. This may indicate that the former species is not as hardy or else is more sensitive to low temperatures. Not infrequently the aphids were found feeding very close to the ground the particles of soil partly protecting them. In nature this difference in habit was also noted; *graminum* was found feeding on the underside of the leaves, while *A.*

avenæ was found at or near the ground feeding upon the stems. When the weather became warmer the latter migrated to the leaves.

Aphis avenæ has a habit of collecting in spots in a field and consequently its injury is localized. It was observed in 1913 that oats so attacked produced little or no grain. Many plants did not head out. Not all the damage in these spots was attributable to *A. avenæ*, as *Toxoptera* was also common feeding side by side on the same leaves in such fields. As many as a dozen of either species were found feeding on the underside of the same leaves. The dusky *A. avenæ* appeared as dark spots among the light green *T. graminum*. It seems quite possible that the species were benefited by this close association, as it may have reduced the chances of either being destroyed by predaceous and parasitic enemies.

LENGTH OF LIFE OF THE INDIVIDUALS CONSTITUTING THE GENERATIONS IN THE SERIES.

The variation in the length of life of the individuals in the series is well illustrated in Fig. 1. By referring to this Graph the following facts may be noticed: An individual born July 10, 1913, lived only nine days. This was the shortest lived individual in the whole series of first and last borns. Death overtook this aphid approximately four days after she had reached maturity. The longest lived individual was born December 1, 1913, and lived until March 11, 1914, or for a period of 100 days. Another individual lived for 86 days. This one was born January 24, 1914, and lived until April 20, 1914, or for a period of 86 days. Still another lived for a period of 84 days. This one was born October 18, 1913, and lived until January 10, 1914. These three instances constitute the longest lived individuals of the whole series, and it is interesting to note that they occurred during the cooler part of the year. The average length of life of the individuals born during the summer months was about 22 days, increasing to 25 days for those born during the fall months, and 75 days for those born during the winter months.

NUMBER OF YOUNG OF THE INDIVIDUALS CONSTITUTING THE GENERATIONS IN THE SERIES.

The number of young of an individual constituting a generation in the series varied considerably, as would be expected. A comparison of the number of young of each generation is being

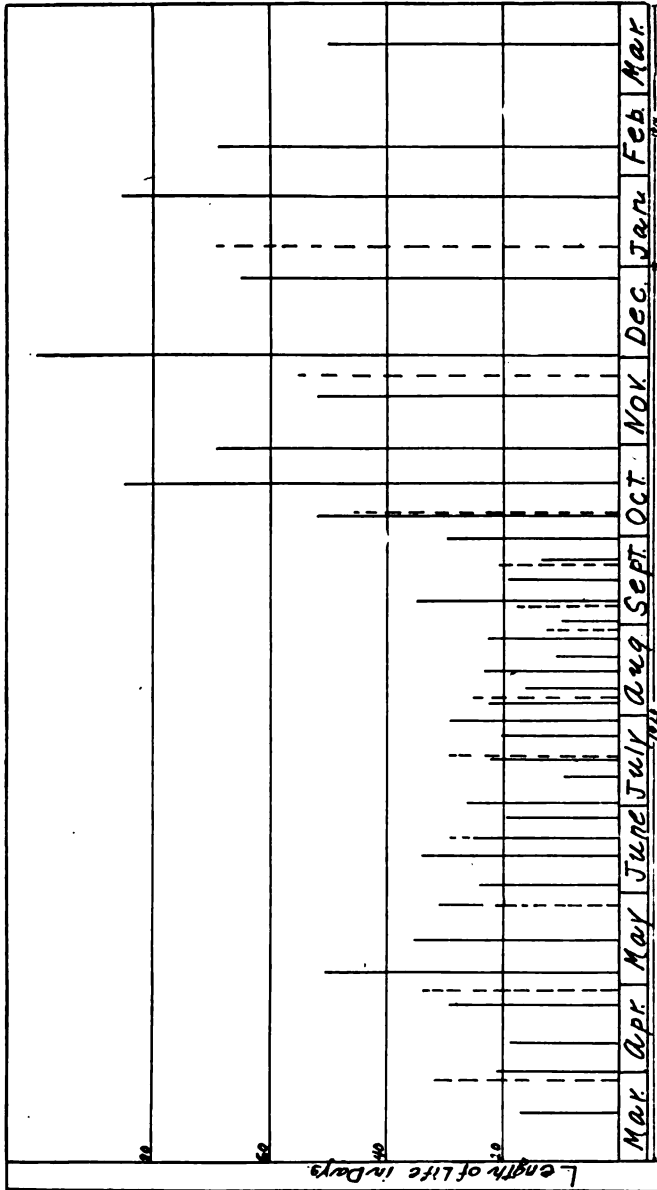


Fig. 1—Graph showing comparative length of life of individuals of *Aphia avenae* plotted against the date of birth of individuals, Columbia, S. C. March 18, 1913, to May 5, 1914. Solid lines represent first-born and broken lines last-born individuals.

made in Fig. 2, and it will be seen, by referring to this figure, that one individual had a progeny of 75 young. This aphid was born October 18, 1913, and has been recorded previously as one of the three longest lived individuals in the series. It belonged to the line of first borns. Another individual also of the line of first borns, born September 22, was a close second. This one produced 71 young. Still another produced 70 young. This one was born October 8, 1913, and belonged to the line of last borns. It is also interesting to note that all three of the individuals producing the largest number of young in the series were born during the cooler part of the year. The minimum number of young produced by any individual in the line of last borns was three and four in the line of first borns. The average number of young for an individual during the summer months was about 33, and for the winter months 38.

**PERIOD BETWEEN BIRTH AND REPRODUCTION AMONG THE
INDIVIDUALS IN THE SERIES.**

The time elapsing between the birth of the individuals and the beginning of reproduction varied very greatly, as will be observed by referring to Fig. 3. It is shown here that during the summer months the minimum number of days for this period was five, and the maximum nine, with an average of seven days. Counting about four days for the individual to reach maturity after birth, it will be seen that reproduction may follow within 24 hours after the last moult has occurred. During the winter months this period is very much lengthened as a maximum of 36 days was obtained at this time and a minimum of 15 days. Although the period between moults has also correspondingly lengthened at this time of the year, the individuals were mature a number of days prior to producing the first young. The average of this period for the first born individuals was found to be 10.+ days, and for the last born individuals 10.+ days, making a general average for the whole series of 10.+ days.

NUMBER OF GENERATIONS.

The number of first born generations from the time the series was started March 20, 1913, to the time they were discontinued, March 17, 1914, was 35. The number of last borns reared from March 29, 1913, to January 17th, when they ran out, was 12. The last born of the twelfth generation died while the writer was absent from the laboratory. By adding the number of first born

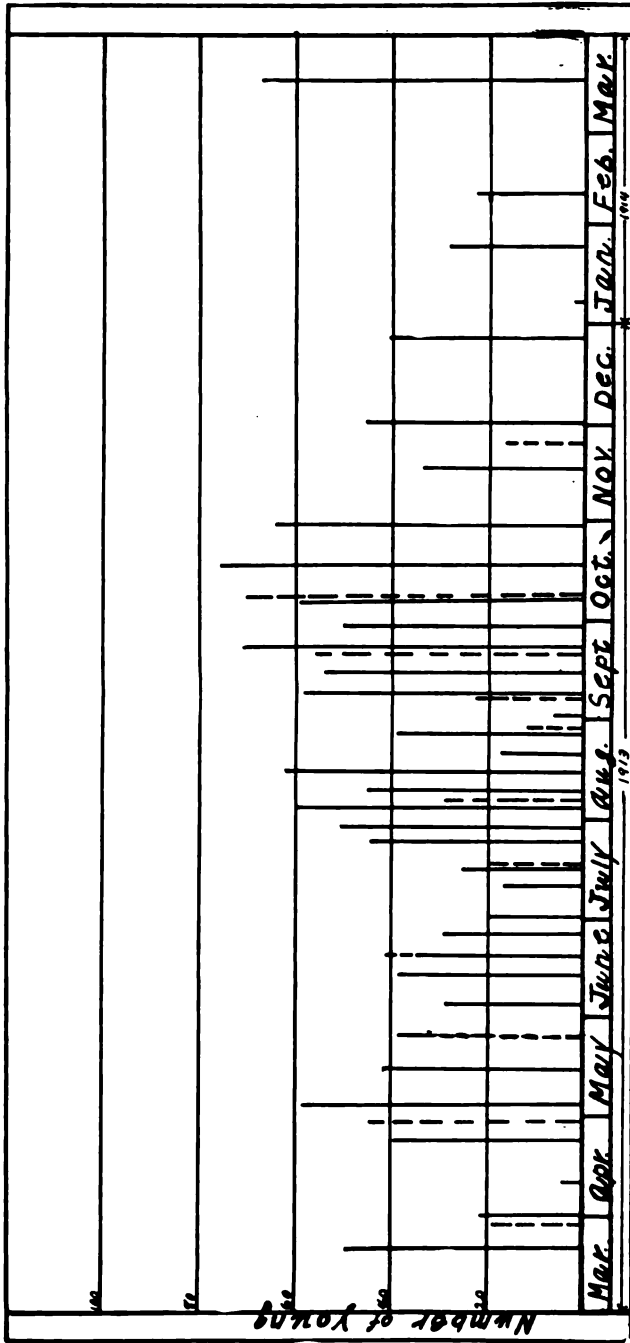


Fig. 2—Graph showing comparative number of young of the individuals of *Aphis avenae* plotted against the date of birth of individuals, Columbia, S. C. March 18, 1913, to May 5, 1914. Solid lines represent first-born and broken lines last-born individuals.

generations to the number of last born generations, and dividing the sum by two, we get approximately 24 generations for a calendar year for the latitude of Columbia, South Carolina. No oviparous forms appeared in this series. It is quite probable, however, that, had the species been kept in breeding condition, eviparous forms would have appeared later on, possibly in the fall of 1914, as was the case in the generation series conducted with *Toxoptera graminum*.*

**INFLUENCES CONDUCTIVE TO THE UNUSUAL ABUNDANCE OF APHIDS
DURING CERTAIN SEASONS IN THE SOUTHEAST.**

It has been a recognized fact among a number of entomologist, among whom should be mentioned the late Prof. F. M. Webster, that certain meteorological conditions favor the unusual abundance of aphids during certain seasons. Prof. Webster (2) held that during cool, wet springs the parasites and other enemies of aphids are held in check, while the aphids themselves continue to breed at this lower temperature and will then outnumber the enemies when the weather turns warmer and the latter become active again. It is during this period that great damage to crops is often done by the aphids. Just what the limits of temperature are during which certain parasites become inactive while the aphids continue to breed, has been determined for the Middle West by Mr. W. J. Phillips, of the United States Bureau of Entomology, and has been given in the Bulletin on the Spring Grain Aphis or "Green Bug." (3) In this bulletin the writers give a minimum temperature of 40° at which aphids will reproduce and develop, while parasites require a temperature of at least 56° to breed. Conditions in the Middle West are somewhat different than are those prevailing in the Southeast. Outbreaks of aphids when they occur in the latter district come earlier in the year than in the former districts, as was evidenced by the outbreak of *Toxoptera graminum* and aphis avenæ in 1913. Oats growing profusely in January of that year being then about 10 inches tall, took on a rusty appearance by the close of that month, indicating an infestation of aphids. This month was very warm considering the season of the year. The temperature was 8° above nor-

(3) The Spring Grain Aphis, F. M. Webster and W. J. Phillips, U. S. D. A. Cir. No. 85, March, 1917.

(3) The Spring Grain Aphis, F. M. Webster and W. J. Phillips, U. S. D. A. Bur. Ent. Bull. 110, Sept. 6, 1912.

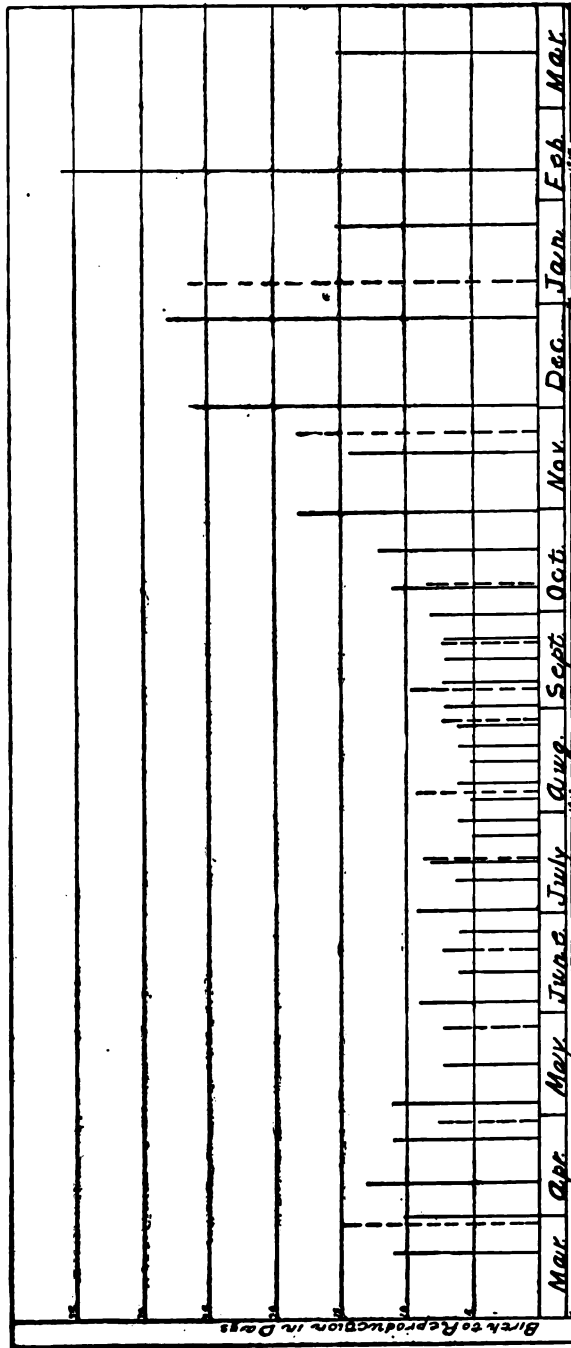


Fig. 8—Graph showing period in days, between birth and beginning of reproduction of the individuals of *Aphis avenae* plotted against the date of birth of individuals, Columbia, S. C., March 18, 1913, to May 5, 1914. Solid lines represent first-born and broken last-born individuals.

mal, slightly below the highest average during the past 26 years. Readings of 32° were exception rather than the rule. In February weather still continued warm, warmer than usual temperature being 2° above normal, infestation was not checked, but aphids continued to breed unhindered by cold and influences of its enemies. The winter closed with an average temperature of 4.4° above normal. No parasites or predaceous enemies were noticed at work during the period. In order to bring out more fully that the winter of 1912-1913, and spring of 1913 were warmer than usual, a Graph has been using the mean temperatures of the months in the period of the years mentioned. Then, as a check, other sets of years were selected at random, using the mean temperatures of the same months as before. By referring to this Graph (Fig. 4), it will readily be seen that the 1912-1913 line represented by a curve "a" on the figure shows a high mean line for this period. Another fact is brought out in this Graph and even better illustrated in another Graph (Fig. 5), namely, that there is usually a pronounced cold spell during the month of February of nearly every given year. Hence any undue insect activity caused by high temperatures during the month of January is checked by the cold spell in February following. No such cold spell occurred during February of 1913, and hence the aphids were permitted to breed unchecked by low temperatures and by its enemies. As has been mentioned before, the enemies were not active during this whole period, in fact, none were found. However, about the middle of March during that year (1913) they suddenly became active and soon made great headway in getting the upper hand, not, however, until great damage had already been done by the aphids. By referring to Fig. 4 it will be noticed that the temperature for the middle of the month of March, 1913, was about 55°, approximately that given by Mr. Phillips as the lowest temperature at which the parasites breed in the Middle West.

Nothing as yet has been said regarding the amount of rainfall occurring during the months of January to March, inclusive, 1913. No excessive amount of precipitation occurred during the first two months. However, during early March and again during the middle of the same month, heavy rains fell. It appears to the writer that heavy rains occurring at frequent intervals, instead of being conducive, are a hindrance to an outbreak, as large numbers of the aphids, especially young forms, are killed

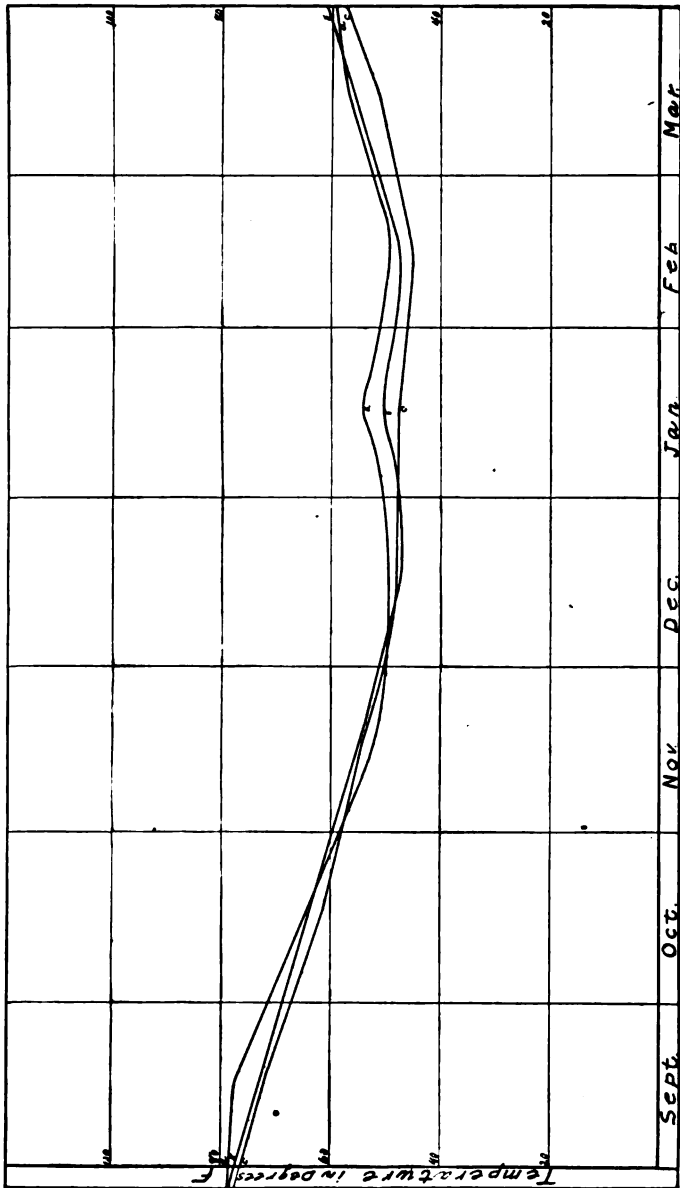


Fig. 4—Graph showing mean temperatures, September to March, curve "a" 1912-1913; curve "b" 1913-1914; curve "c" 1916-1917.

by direct action of such rains. It is true that such rains hinder the parasites in their work, but, as mentioned previously, such outbreaks in the Southeast occur before parasites are active, and thus rains cannot function as a favorable factor from that standpoint.

However, it might be of interest to mention that during the year 1912, the year preceding the outbreak, excessive rains fell throughout the year, excepting during the month of August, which was relatively dry. Precipitation was 113 per cent. above normal for the year. Whether or not this had any bearing on the outbreak of the following year is a question. It is quite possible that not as many parasites in point of numbers wintered over. Still this is too problematical a question to throw much light upon the subject.

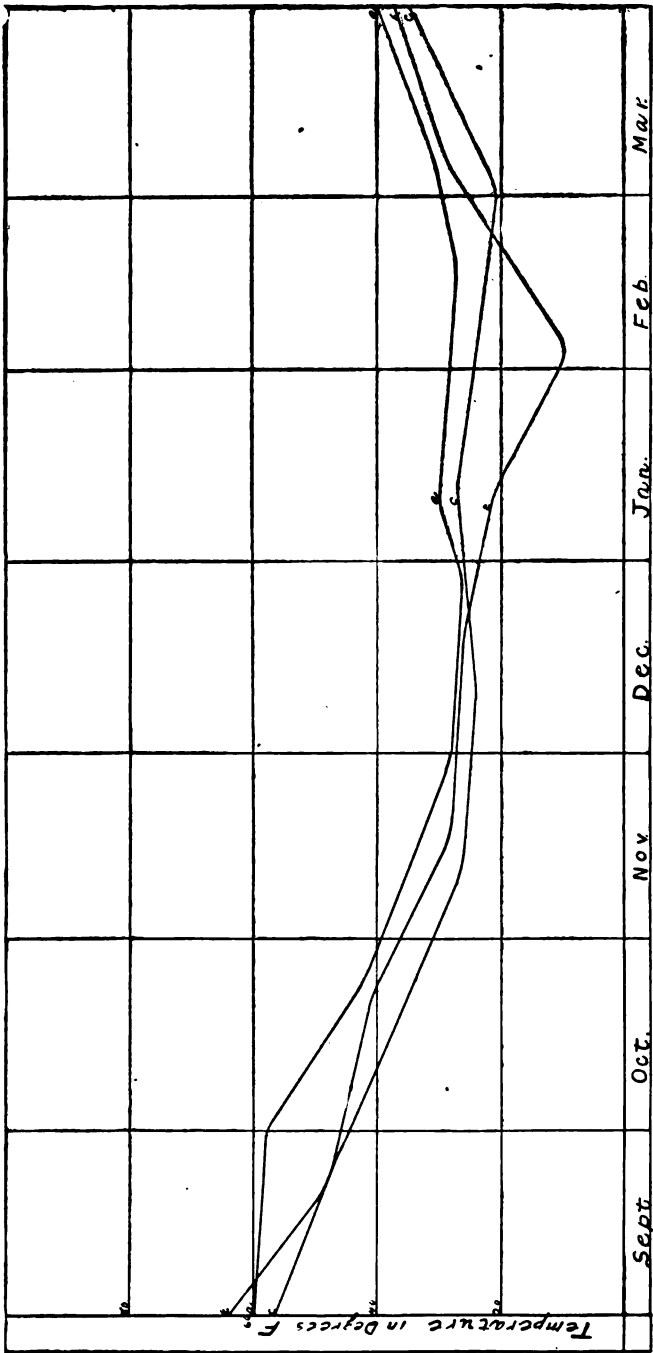


Fig. 5—Graph showing minimum temperatures for the months in the years mentioned in Fig. 4.

BACK TO THE LAND.

North Carolina is getting a lot of publicity out of a proposal by the Bureau of Extension of the University of North Carolina to "Make Farm Life More Attractive." An editorial in the *Manufacturers Record* says:

"Comfort and sanitation are outlined for the farmers of North Carolina to an extent hitherto almost unheard of outside the big cities. Electricity from small streams or gasoline engines is to give light for the farmhouse and barn, power for the milking machine, corn sheller, ensilage cutter, grindstone, etc., and for the sweeping, washing and ironing, etc., of the household. Engineers are to supervise sanitation, sewage disposal, water supply, heating, ventilation and lighting of farmhouses, and the installation of a telephone in every home will be encouraged. Not only the conveniences, but the luxuries of life will thus be secured for the farmers in their homes."

Now, I can cite the case of a farm home in York County, seven miles from a railroad, where there is a "quick ice" machine, electric lights, running water, etc. It just can't be beat. No doubt there are a great many other such homes in this State, and this one is an old fashioned home with lots of children. It happened this way: When we forced the price of cotton up, these excellent people, with several generations of college graduates, needed no patronizing agency. As soon as they got the money, they got the comforts. And that would have been done years ago if Southern farmers hadn't been robbed. Will it happen again?

BERNARD BARUCH'S HOME STATE.

In preparing my annual report I solicited a number of strong statements from men of prominence, telling of their views as to the possibility of the State. One from whom such a message has come is Bernard M. Baruch, the great New York financier whose counsels were asked for by the President in the peace adjustments.

Whatever our people may say of Mr. Baruch's views on cotton, and he strenuously claims that he has been misunderstood, we must concede that on account of his prominence in the world

of finance, the enthusiastic statement of Mr. Baruch is of value to us in propaganda for the developing of the State. Mr. Baruch's comments are as follows:

"The State of South Carolina, it seems to me, has much to offer capital, whether it be in the form of manufacturing enterprises or agriculture. What you really need is to get people settled in and acclimated to South Carolina. Its soil will raise almost anything, and I have always been puzzled to understand why there should be any vacant land in the State. It has a delightful climate, good land suited to agriculture and good facilities for the distribution of its products, good laws and a friendly and neighborly people."

This is not mere hearsay, for Mr. Baruch is a native of South Carolina. His father was a surgeon in the Confederate army who practiced his profession in Camden after the war and was greatly respected. He was one of the surgeons in attendance at the Cash-Shannon duel, which had such a sad outcome that duelling was forever thereafter ended in the State. After the war Dr. Baruch received from his patients pay in potatoes, cotton, chickens—just anything that they had. In that way he and his family learned much of the burdens of the people of the State.

Dr. Baruch removed to New York, where he became eminent as a surgeon and Bernard M. Baruch is one of the leading figures in the financial world. The latter owns real estate in Kershaw and Georgetown counties, and his home near Georgetown is one of the beauty spots of the United States.

FARM LIFE IN SOUTH CAROLINA.

The year through which we have passed has been one in which the average person has been dazed by the rapidity of changes in our economic life and bewildered by the spread of insidious and plausible ideas and harmful views of life. This country was settled that our forefathers might have the opportunity for the expression and development of the individual, repressed and dwarfed as individuality had been under European autocracies. But the individuals had their own code and the substance of it was—let the best man win.

As one who has been a breeder of live stock for many years, the Commissioner sees in human kind many of the traits that he has observed in the dumb animals which he has watched. In these days of uncertainties, of shifting responsibilities, he feels

that out of his long experience he must urge a warning upon the people. It is not likely that our people will be swayed by the false teachings that have bereft the European masses of their power to reason. It is unlikely that radicalism will find a foothold in the South—for our people are Americans—and they are not hungry. But there is a possibility that our people will become less keen to work, more prone to accept paternalism, and to let the government do for us, think for us, until we become pampered, soft and unfit.

This is no time, no place for drones among our hives. I have watched them. For a time the drones are the pets of the hives. But after they have served their day, after the period of fertilization is over—the drones are set upon by the great mass of the industrious bees and the loafers are stung to death.

With the sudden occurrence of money among us, incident to having in the South so many army camps, and resulting further from the great prosperity of our enterprises and the increased pay rolls, our people show a tendency to become drones. Some of our less intelligent seem to think that they can dawdle and waste two or three days out of every week if they can in three days make more pay than they had ever earned in a week or ten days in pre-war times. Of course, I would not suggest that such drones be stung to death, literally, but I do say that in this great emergency of the world there is no time for idling. There is today the greatest demand for production and thrift.

We worked at such a headlong speed to meet the demands of the armies in the field that we now seem to be suffering a reaction. "The war is over, what's the use?" That is a philosophy that will destroy. The Commissioner wishes to say to the people that this is no time for letting down. We must work, we must produce—or we will become parasites.

In Europe today there are millions actually starving! Do our people know the meaning of the word—"starving?" I do not think that anywhere in the South there has ever been starvation, although there was at one time great misery at the close of the War of Secession. But, Europe is hungry, and in parts of Europe there is absolutely nothing to eat. People are dying, slowly, miserably, in hunger. Even if they had money there is no food for them to buy!

PRODUCE—OR SUFFER!

If our people cannot get the vision of their responsibility to the suffering of other lands, the fact that there is suffering anywhere should bring a warning, a solemn warning of the fact that unless we produce more we must pay more—and perhaps some day we, too, may go hungry for that which is not produced. The curse of the war is that it took the lives of so many men at the age when they were producers. The productive power of the world has been so greatly reduced that every ounce of energy must now be used.

The great mass of our people is interested in agriculture, in the producing side of life. It is the happiest, the freest of all forms of existence. There are signs of the times which are not wholesome, although not yet alarming. One of these is the tendency of white landowners to become tired of farm life and to sell their lands to tenants of other races. That is a symptom of a fever in the blood of our landowners. I wish to warn them with all of the earnestness at my command not to part with their lands. The soil is the thing which makes any people great, any nation powerful. From the soil come agricultural products and the great mineral gifts of Providence. If we abandon the soil we will rue the day. Look at Mexico. All of her troubles are caused by ownership of the soil. Look at Russia. It is the acquisition and division of land that has made the soviets so powerful. Look at France. She was saved in 1870 and again in 1914 because her peasantry owned the land and had been thrifty and saving. Land must not be the chattel of a few. We cannot afford to let ourselves be loosed into channels of communism, but surely, as our people become non-producing in agriculture, just so surely will our country become less and less self-reliant and more dependent upon outsiders. Strikes add to the number of non-producers, and the producing class in the final result supports the non-producing. It is evident to every one who observes that there is a great increase in the number of non-productive occupations, and a greater increase in the number of persons removed from the ranks of producers to become agents, commission men, and representatives of industries that consume rather than produce.

THE OLD AND THE NEW.

With the modern contrivances that are invented to give pleasure to the people I will make no quarrel. But I conceive it to be a privilege at this time to protest against too much of our time

being given to matters which neither ennoble ourselves nor make life easier for our fellow men. I realize that platitudes cannot take the place of the pull of moving pictures, and that remonstrance cannot make youth have a fondness for country life over the empty baubles of the vain pleasures of the populous centers. But I will say in the most fatherly spirit to the young men of this day: "Boys, you don't know what you are missing by being cooped up here in towns." Why, when I began farming a good many years ago, we considered ourselves fortunate to find old pieces of steel from which we made our plow points with our own hands. I have shod many and many a colt, and I yield to no man in the excellence of my work at the forge. The only music we had at night was the katydid and the screech owls; we had no lights but the tallow dip and the conveniences of home were few and most primitive. What do we see in the farm homes of South Carolina today? There is a ram in the spring branch and running water in the house and in the barnyard; there is an electric lighting plant in the back yard and a quick ice plant in the kitchen. The plowboy has a comfortable seat on a tractor engine and he comes home at night to hear grand opera, or mostly jazzy time, on the self-player piano or the talking machine. I know just lots of homes just like that in South Carolina.

I know that these are topsy turvy times, that advice is cheap and will not be heeded at any price, but I insist that the South never at any time held out such an invitation to the young man to go to the farm. His individual life can get all the expression and expansion that it needs, and he has the opportunity to live in happiness and in abundance by pursuing the first and only occupation that God directly gave to man—for that is what farming is.

The fact that we older men had so many more obstacles may be the cause of our loving our farm life and our farm homes, but I say to the young man of this day that with all of the modern conveniences and comforts with which the farm homes may be supplied, I think that there is yet on the farm that which can be gained nowhere else—and that is the true vision of the purposes of our Creator.

Farm life a dozen years ago was not profitable. Today men are able to make a living if they farm properly. Therefore I say that there is no other calling which should receive such serious consideration. The land must be utilized or we will perish.

Shall we turn over our land, the thing for which our forefathers made their fight? Shall we let negroes or undesirable immigrants of the class of our coal miners, operate our farms while we become non-producers? Whenever we do, the stamina of our manhood will go down and we will become worthless to ourselves and to our country. The farms and the farm life of this country must be sweetened, strengthened, protected or, like Greece and Rome and other civilizations, we will lose out.

TOURISTS AND HUNTING PRESERVES.

There is a crop that is ripe in South Carolina in the early months of the year and usually brings a good price—I refer to what is known as “the Tourist season.” I don’t know whether much permanent good really results, perhaps some harm in the disturbing of domestic servants, and making them expect “tips” which is unlawful in this State, but a lot of cash money is released in certain sections, notably Camden, Aiken, North Augusta and Charleston, with Columbia and Summerville “also mentioned.”

In this connection I wish to say something about these hunting preserves in South Carolina. I don’t know that there is any way by law to break them up, but I consider that they are a nuisance—and worse. I am reliably informed that the farmers of the Brighton club some years ago formed a drainage district and were ready to cut the ditches when they found that it was necessary to run an outlet through some land owned by a wealthy Northern gentleman, and a good sportsman, too, I will say that. But he declined to co-operate with these local farmers. What he wanted was cheap land and a wilderness around him so that he might go hunting a few days in the year, with some of his friends. I say that such practices as letting whole sections of the country go to a few, are injurious to the interests of the State. I wish that every foot of every hunting preserve and every other vast tract that is being used for speculation, could in some way be retrieved for the public domain.

We are glad to have these good people come among us, even if it is but occasionally, and we like them so well that we wish they would take the land that they have, the streams that they have, the forests that they have, the opportunity that they have, the money that they have—and by means of benevolent fusion convert their holdings into such an agricultural paradise as can be found nowhere else in America.

I read a lot about California. In one great publication, just one issue, I saw California products advertised at a cost of some \$25,000, and the public is convinced that California is one unto itself. Now, there is nothing in that. We may not be able to produce citrous fruits, but we can and could make California a competitor if we had our coastal plane drained. And California offers no more beautiful scenery for her great industry, moving pictures, than can be found around Beaufort, Charleston, Georgetown, the Waccamaw River, Camden, or Caesar's Head. If it is variety—we have it.

The winter season brings to South Carolina some of the most notable people of America. We welcome them, but at the same time, we implore them to assist us, rather than retard us in our efforts to make South Carolina greatest in industry, rather than in illiteracy, greatest in all good things, rather than in the extent of her swamp lands. Here is an item of interest:

"Georgetown, Jan. 2.—The deer hunting season expired this week. All during Christmas week especially the woods within a twenty mile radius of Georgetown rang with the sound of hounds and horns, and many fine bucks and does bit the dust before the deadly fire of the hundreds of hunters that came from far and near to enjoy the royal sport.

"On Bernard Baruch's and Dr. Isaac E. Emerson's splendid preserves on the Waccamaw, a large party participated in the chase and a score of deer were bagged within the last few days of the season. The landlords of these vast acres of hunting lands were present personally and dispensed generous hospitality to their invited guests.

"On the Santee, the DuPonts of the Kinlock Gun Club had a grand hunt: J. L. Wheeler with his 40-odd guests of the South Island Gun Club, held a great hunt Tuesday and Wednesday. This party gathered at sunset Tuesday and counted the row of big sleek fat deer that lay along the roadside on the carpet of pine needles under the tall timber, 11 in all, of which nine were bucks.

"The hunters on horseback for the most part, some in cars, and the hound pack nosing and watching the dead deer made a scene not soon to be forgotten. On Chat Isle another party of ten brought down four deer during Tuesday, the party breaking up early for the late afternoon mallard shooting in the aban-

doned rice fields. In other parts of the county deer hunts were staged, the results of which have not yet been reported. Old Georgetown County still holds the title for game, and with measures for adequate protection, will long continue the mecca for sportsmen the country over."

While we have a law preventing a non-resident from owning more than 500 acres of land, there appears to be no statute making it punishable. A law without a penalty is not much of a deterrent. I am very sincere and very much in earnest in declaring that these vast domains which are now waste lands and a reproach to the State, should not be permitted to remain the playground of a few—with perhaps a remote idea that some day the timber therein, acquired for nothing, may be a gold mine for the deer hunter of today, or his heirs-at-law. The patrimony of a State gone for a mess of pottage—or literally "a mess of partridges" as our old friend Josh Ashley used to say.

FINDS SUCCESS IN FARMING.

"As to my individual achievements, if any, will say that from my point of view, it would not be good taste nor good business for me to write an article for publication dealing in actual figures, and must, therefore, ask that you pardon my failure to respond specifically to your request, but, believe me when I state that it is not for the love of the game only that I continue to till the soil." This is an extract from a letter from Paul Sanders of Ritter, in reply to a request from the Department as to the success of his year's farming. Mr. Sanders' achievements are among the bright chronicles of the dark days of 1914, when he took his losses without flinching, and has fought his way back. He is of the kind that are making this a great State.

COLONIZATION AT ANDREWS.

Numerous colonization efforts in Southern States have failed because they were improperly promoted. How gratifying it is, therefore, to report the great success of the colonies around Andrews, S. C., on the line between Georgetown and Williamsburg Counties. This plan was started by W. H. Andrews, and a town of some 3,000 inhabitants has sprung up as if by magic.

The success of the undertaking is due to the fact that it was not over-promoted. Mr. Andrews and his associates had several thousand acres of land which they wished settled. They did not interest a lot of buyers, get their money, and then leave them to

work out their own success or meet their own failure. The policy of this company was to teach our kind of agriculture to farmers from Western States who had no idea how to get started or how to keep going in our climate, no matter how rich the soil. The farming of the different sections of the country, in fact, even within our own State, is absolutely different. The first year is usually a very hard one upon settlers, but if they get beyond its hardships, they will succeed. Western farm experience, combined with Southern ideas, will make a success of the second year.

Sixty families of Western farmers have settled and have "stuck" in the country around Andrews. It is reported that 200 other families will soon move from the snow-covered prairies to the land where three crops a year in rotation may be made upon the same piece of ground. The permanent success of this settlement plan is giving encouragement to men of vision to try it in other sections of South Carolina. The idea is not to sell a prospective buyer any more land than he needs so that he will not be ruined in over-reaching himself.

The Carolina Farm Development Company has already done considerable drainage on their lands and an effort is being made to enlist the aid of the Government in the further prosecution of the work.

Andrews has a good tobacco market, which bought over 3,000,000 pounds of the leaf the past season.

HOW MUCH IS LAND WORTH?

"Fools rush in where angels fear to tread," but this is a question which has been asked the Commissioner a great many times. There have been some remarkable deals in farm realty in the last six months. I have heard of farms in Marlboro bringing upwards of \$750 per acre. In other counties farms quite a distance from towns have brought prices which, I might say, are fabulous.

I say that there is great danger in this upward tendency in the price of our lands, because the times are too uncertain and farmers who know nothing but cotton are sure to suffer if they do not adopt a plan of diversification, which cannot readily be done in a year. When farm lands become so high in price they go entirely out of the reach of the tenant farmer, and our future agricultural wealth and domestic contentment must be based not upon the spectacular sales of land, but upon the greater distribu-

tion of ownership. However, when a farmer buys a farm home, and not cold-blooded investment merely, he can afford to pay something extra for the privilege of home owning.

In Iowa and Illinois lands had an inflated value and the price paid lost all semblance of reason, but the equilibrium is being restored in those States, I am told. Every time that a farm sells for more than it will earn interest upon, somebody is going to get hurt. That's about all that there is to be said.

FARM LOAN BANK.

The Commissioner is pleased to report the continued success of the Federal Farm Loan Bank, one of the projects encouraged and fostered by this Department, but I think the bank is not accomplishing that for which there was such a demand a few years ago. It is the means of distributing in South Carolina a lot of money on a plan of easy payment and low rate of interest, but according to my observation the law is not flexible enough to permit a tenant farmer to purchase his own little farm. That was the thing for which Colonel Watson, David Lubin and others worked so earnestly. It is all right to make a fight to liberate the white tenant farmer from illiteracy, but why not go a step further and give him an opportunity to buy and to own land. This it is difficult for him to do when he can borrow but 50 per cent. of the value of the land. A great service that the land bank renders is to make it possible for individual farmers to obtain loans on better terms from life insurance companies and other agencies.

The Federal Land Bank of Columbia operates in the States of North Carolina, South Carolina, Georgia and Florida. According to a statement by the secretary of this bank, Mr. Arnold, 354 national farm loan associations have been organized to date in these four States. Ninety-seven of these are in South Carolina.

The total loans to farmers in South Carolina from this Federal Land Bank now amount to \$4,750,000.

The largest loan association in the district is that in Anderson. Through this approximately \$275,000 has been loaned to the farmers constituting its membership.

POWER FARMING.

The use of power in farming has become general, in fact, universal. No farm can be without at least a low cost automobile to facilitate getting about over the farm and for other purposes too

numerous to mention. Then comes the tractor, which is finding more and more favor in the eyes of the farmer as its adaptability becomes more and more demonstrable. I remember well one of the first tractors successfully used in the State. It was an ordinary coal burning locomotive of the type used in conveying threshing machines, etc. This engine was used for agricultural purposes by Wade Drake of Anderson County, who ten years ago proved that it could be made a great success in agriculture. He showed that by its use gullies could be filled, terraces thrown up, and the soil broken to a depth of a foot or more. Now I learn that there are several hundred tractors in use in this State, one State agency alone having sold more than 600 in 1919. This is a popular make and perhaps half of the sales of all makes during the year were represented in the number stated.

The advice of this Department has been that a tractor is a valuable adjunct to farm work when it is used and useful, but no farmer is making a good investment to buy a tractor unless it is to do work which he requires and cannot get done properly by live stock. I think it is unnecessary to dispense with the use of live stock, for there are so many things that are not being done and that should be done. For a time this Department recommended that neighbors club together and buy tractors for farm work. But this has now become unnecessary as the cost of farm tractors has been placed within the reach of any farmer who has any right to have one. With the advent of the use of power cheaply and advantageously on the farm, labor questions will be improved, if not minimized, for the boll weevil will encourage the production of crops that can be harvested by machinery.

In the last half dozen years the boll weevil has made it possible to get more for cotton, and the distribution of wealth in this State, but recently infested by the boll weevil, has become more general. As the flood tide of poverty recedes, it carries the flotsam of illiteracy with it, and as the fresh waters of wealth and education take the place of brackish and stagnant pools of low order of citizenship we expect this to become a better and a greater State. The fundamentals are here. Our people are strong at heart, but they have not been allowed to grow into their full mental and moral and social development.

The Ohio Department of Agriculture has made a survey of tractors in that State, sending out 4,500 two-page lists of questions to actual tractor owners as taken from the annual tax lists.

Seven hundred and ninety answers were received and from these answers tables were made showing just what value the owners placed upon their machines. Answering the question as to whether the tractor was a good investment or not, 656 declared it a good investment, and 69 wished for their money back. In answer to "Can a tractor be relied on at all times?" 619 said "yes"; 97 said "no." As a means of decreasing labor on the farm 609 reported that it did materially decrease labor, while 90 declared that it did not, several stating that with the tractor they were doing twice as much work as with horses.

The average use of the tractor during the year was nearly 60 days, according to 704 reports, 15 were used on an average of 92 days and the average repair bill on these was \$7.11, and with all 15 owners not a single case of dissatisfaction was reported. The average cost of repairs of 716 machines was \$21.23, ranging from \$7.11 to \$54. As to whether or not the tractor decreased the cost of farm operation, 87 reported increase, 63 no difference, 457 a decrease. On 73 per cent. of farms reporting, horses had been replaced by the tractors, 175 reporting that they still kept as many horses, and it was noted that the larger the farm the greater the number of horses dispensed with.

I am of the opinion that the value of a farm tractor depends largely upon the service policy of the company making the sale. To be able to get repairs when needed is the very important item in the usefulness of a farm tractor.

GAMBLING IN FARMS.

"Gambling in farms" has excited the Department of Agriculture at Washington to such an extent that Secretary Houston sent eight experts into the middle West to learn what was going on out there. It is said that in many sections of the West "a down payment of five per cent. in cash will swing temporarily, at least, a transaction amounting to \$100,000. Ordinarily the land gambler pays \$2,000 in money, promising to pay \$20,000 the first day of next March and gives mortgages for the balance." The man who buys a farm at \$400 an acre confidently expects to turn it over for \$450.

So immense had become the total sum payable on March 1, 1920, that State banking commissioners in the West were alarmed and it was at their suggestion, perhaps, that Secretary David F. Houston of the Department of Agriculture ordered eight investigators into the field.

Speculating in farms is said to be going on in all parts of the country. It turned into delirium, however, in Iowa, central Illinois, northern Missouri, eastern Kansas, Nebraska and South and North Dakota, southern Minnesota and western Indiana. Corn at \$2 a bushel and pork at 20 cents a pound, on foot, are the figures that have turned sober men into the wildest type of plungers.

Land in South Carolina has brought almost fabulous prices this fall, but the Commissioner has heard of few cases of speculation. He does know of tens of thousands of acres in this State that can be bought advantageously.

RESURVEY OF LANDS—TAX DODGERS.

I think that one of the most useful propositions that the Legislature could handle would be to provide a survey of the counties. This could be undertaken, I believe, on a contingent basis, and would add to the tax books a lot of land now escaping taxation. I have had some correspondence on this subject with Col. J. Monroe Johnson, who commanded in France the Engineer's Regiment of the Rainbow Division. Colonel Johnson says in part:

"At the request of Governor Richard I. Manning I met a committee from the State Legislature some years ago, and together we prepared a bill with this matter in view. This bill was promptly killed, and some members of the House, I know, thought that some one was looking for a job. The State of South Carolina is not receiving taxes on a large percentage of the lands within its borders. While there is a great deal of valuable property either not on the tax books at all or on the tax books at an undervaluation or on an under-statement of amount, by far the greater amount of property, however, not on the tax books is swamp lands unimproved, and because of this there is no incentive to the owners to improve the property and to make it available. A resurvey of the State would remedy this latter deficit, and would also make an intelligent and proper appraisal possible, and would, therefore, put all real property on the tax books and effect an adjustment of all of our taxes."

When asked if he had observed any demonstration of this plan, Colonel Johnson replied:

"As to my practical experience in the resurvey of the lands of Marion County, it is entirely feasible, and while we have about 80 per cent. of the lands of Marion County resurveyed and

mapped in this office, it never has been used for the purpose of rectifying tax books. Of course these surveys were made for other purposes. We have never made an attempt to dispose of this information to the authorities for the purpose of rectifying the tax books."

The Commissioner thinks this is one of the most opportune ideas advanced in years, and I regret that it was not made law, long ere this. I will have a bill drawn and introduced and hope to see it enacted. The engineering classes of our colleges could be engaged to make surveys during summer months. There are several ways in which it might be undertaken, but I rely upon the suggestion of Governor Manning that the work could be done upon a contingent fee. The surveyors by being paid a percentage on the back taxes on land which they find to be dodging the tax gatherer would make a handsome profit on their undertaking.

SHOULD PRODUCE MORE FOOD.

If the high cost of living has hurt the people of South Carolina, it is due to stupidity on the part of the producing classes. I am not yet ready to concede that our people have been hurt. There are individual cases where salaried employees have not enjoyed a sufficient increase in income to make up for the exactions upon them by increased costs. But all wage earners have enjoyed prosperity, anybody who has had anything to sell has made good profits, and the fullness of trade and the extravagance of the people have had a favorable effect upon the salaries of our salesmen and office men. Public officials and some few others in the salaried class would have had a hard time to exist if they had not had other sources of income.

Therefore if the high cost of living has had a bad effect upon any of our citizens, it is because the producing classes have not done all that they could. The fruit crop was almost a failure, except blackberries, and the national prohibition law removed blackberries and scuppernongs from the edible to the beverage classification, so they say. But there is no reason why any oats or hay or corn or canned fruits or vegetables should be shipped into South Carolina. No reason did I say? No reason but the scarcity of labor. There has been plenty of labor, but it had a full belly and wouldn't respond to the urge for efficiency.

One of our great political parties once had for its slogan "the full dinner pail." If there were today any efficacy in that slogan, the Democratic party would stay in authority forever, for the full dinner pail was with us all of the year. In the days of liquor drinking in South Carolina, farm hands would go to town Saturday, get drunk and be unfit for work until the next Tuesday or Wednesday. Now it is a different excuse. Farm hands are well clothed, well fed, they have their automobiles, some cheap, others of expensive makes. None of them lack for victuals, and that, no doubt, causes them to spend so much of their time in idleness.

BUT—WE DIDN'T DO IT.

To such persons there can be no appeal. They do not relish the task of reasoning. Why should they work, merely to produce more, when in three days of a week they can make as much money as they did in six days of other years? There is nothing that can be done, no law to regulate such conditions but the law of hunger. Yet, how much greater would have been the wealth of this State if we had produced last year ten times as many chickens, eggs, hogs, sheep, oats, hay and other such crops! It could all have been used in this State and would have prevented the buying of any of these commodities from other States.

There has been vast improvement, but our State is not yet self-supporting, and until it becomes such a State it will not have an agriculture that will be truly representative of the best that the State can do. Our State must not be a buyer of anything, except those which cannot be produced at home, and there are few farm crops that cannot be grown abundantly and profitably in South Carolina.

With a balanced agriculture, our farmers would not only have their needs supplied, but they would be able to provide for the greater comfort and contentment of our less fortunate classes that have been attracted to the centers of population in the past "because the farm wouldn't pay."

SIGNS OF THE TIMES.

WORK—OR SUFFER FOR SLOTH.

Make the best of 1920. Take off your Sunday clothes, pick up your tools and go to work. That is the advice of this Department to all classes of citizenship in South Carolina. The world has been having its fling in 1919, and the contagion of sowing wild oats of extravagance, profligacy and lack of fore vision has spread to our sedate and easy going corner of the globe.

The time has come to put an end to this sowing of wild oats. We know not what day a commercial cataclysm may come. In July, 1919, I gave warning to the people that if we did not produce more, we would face the hardest times in the history of this State, and I have not changed my opinion. Those who fail to grow cotton must grow something to eat, for provisions will be higher than ever in the history of this country.

As I am concluding my annual report, there are vague hints of a financial panic in this country. I don't believe that such a condition is at all desirable. Six months ago it might have caused a fair readjusting of prices and wages. But today—it would be the first move toward revolution—inevitably. Therefore, the financiers of this country are trying to stay the orgie of spending by restricting the amount of credit to be extended upon non-essentials. This may embarrass the few, but it seems to be the best thing for the many.

But—I have not been willing to concede that high prices are injurious to the South. We are, or should be, producers not buyers. High prices affect buyers. Those who are hurt by high prices are the people who have turned their backs upon occupations of productivity and have removed to centers of population where they have become drones, consumers, living an existence of fictitious values. Hard times do not hurt the farmer who makes his living on the farm and has his cotton to sell. What does he care for fine clothes? He is independent. Yet, I say with pride and gratification, our rural people are "better dressed" today than I have ever known them.

OUR SECOND RECONSTRUCTION.

This is the second reconstruction period in the South through which I have passed. How vastly unlike. I do not like to think of those times, gone and gone forever, but I would like for the youth of today to get some conception of the absolute poverty of the South in 1866. Once the fairest republic that the sun had ever shone upon, she was in ashes. Her wealth was gone, her credit was gone—friends she had none. Those were terrible days and nothing but the pride, courage and hope of a brave Anglo-Saxon people could have saved this South of ours from degradation and the horrors of miscegenation. France in 1870 had a nation, though conquered. Germany has a nation today. She can speak. She can send ambassadors. In 1866 the South was without entity and adrift upon a sea of chaos.

In this new reconstruction period the rest of the world seems writhing in the birth pangs of evolution, but down here in this South of ours there is serenity, prosperity, and a larger measure of ease and contentment than I have ever known. The South had no money after the War of Secession. Her currency then did not even have the value of interesting souvenirs. Today the South's wealth is not in gold alone but in the success of every industry.

It was a long, tedious, back-breaking climb from the depths of poverty into which we had been thrust. Can it be that this is the same South? It seems so improbable! Many and many is the cabin home I have seen, the "poor whites of the South." No comforts of living, no ornaments on the mantel board, no pictures on the walls. Only the most primitive cooking utensils, no furniture that could be called such and the snow drifting through the cracks of the puncheon walls in winter.

But things are different all through the South today. Even the generation that is today taking hold of things with such vigor and enthusiasm has felt the pinch of hardships. I have watched young men in whom I had the highest hopes for leadership. I knew that they were well prepared in lineage and in education. Yet it seemed so hard for them to get a start. I have seen the discouragement cloud their faces. They met with reverses when the cotton gamblers fixed a miserable price upon the staple which they had worked so hard to produce. I have seen their shoulders begin to stoop under care and their eyes to lose their fire. But in the last four years there has come a change

over their dreams. At last they have actually begun to make a little profit on their cotton, to get rid of some of their debts, to buy some furniture and pretty things for the home, to be able to afford travel and relaxation for the tired loved ones at home.

This is no overdrawn picture. I am stating solemn heart-aching facts. The South has been kept down for 50 years—by Cotton! But our younger farmers are gaining confidence as they are acquiring cash balances—and their future is in their own hands. If they will exercise common sense in 1920 they will never again be beholden to any man. Large production of cotton in South Carolina in 1920 would be the worst thing this State could do—but it will not be done.

THE RIGHT TO ENJOY LIFE.

I don't believe in labor agitations and strikes, where they can be avoided, but I do insist that man must have shorter work days in order that he may properly enjoy life and find time to give attention to the Creator.

What is there in life for any man, or woman, or child, who has to be dragged out of bed before dawn and off to work, with no chance for meditation or recreation? We need more of the proper kind of thinking. Men whose minds are channel bound never think broadly and properly. Therefore, I commend the textile industry of South Carolina for limiting the time of labor in the cotton mills to 55 hours per week.

Now that agriculture is taking its place as a great business, rather than a hit-or-miss avocation, I can see where the drudgery of the farm can be lightened and the rural folk given more happiness because they have more money, more independence, more adaptability to enjoy the innocent pleasures which they may obtain. This condition of being in easier circumstances makes better citizenship in many ways, not the least of which is because they can find recreation or enjoyment without resorting to the liquor bottle. The money that once was given for whiskey is now putting wholesome food in the stomachs and nice clothes upon the backs of thousands of women to whom comforts and even sufficient nourishment were unknown.

Indeed has the South been transformed by better prices for cotton and because of the increased production of corn and meat, but we cannot hold to this condition if we yield to the temptation to try for "one more big crop" of cotton.

WASTE OF INFLUENZA.

It would be impossible for me to describe the psychological condition of the State at the beginning of 1919. The sudden cessation of hostilities in France had brought the war work to a stop with an unexpectedness that disarranged the entire internal economy. There were gloomy forebodings as to the future. The soldiers were coming home—where would they get work? The farms, the mills—all were working on high speed to supply the needs of the army. Would those efforts be unnecessary in peace?

But the most disturbing element of life in our State along about that time was the scourge of the plague which swept over this State, such a thing as I had never witnessed in all my life. The so-called Spanish influenza prostrated in serious illness many times as many persons as we had sent to the war. It had paralyzed industry temporarily when the epidemic was at its height. It had demoralized country folk and had put the crepe upon hundreds of doors in industrial centers. For weeks schools, churches, theatres and such like places were under quarantine.

In the one month of October, 1918, there were recorded 6,100 deaths and of this number 4,000 were caused by the plague. The quarantine was generally lifted on November 7th, and two weeks later the epidemic broke out afresh. It is stated that in October alone there were 170,000 cases in South Carolina. In November and December 3,875 deaths from pneumonia. There was a fresh outbreak in March, 1919.

I think this discussion is appropriate in my report, for it shows the stability and the elasticity of the life of our people. Notwithstanding the dread with which the new year was ushered in, it was made a great and busy and commercially successful year by our people. That may be due in part to the fact that the boys came home from France in the early part of the year. I have never witnessed such general and genuine happiness as was shown on the streets of the Capital City on that glorious day when the 30th Division came home from Flanders and paraded the streets of Columbia while more than 50,000 people cheered them, welcomed them, honored them. From that day all things in South Carolina seemed to take new hold, new life, new zest.

FARMERS NOT PROFITTEERERS.

While apparently the farmers of South Carolina have made a lot of money in the last two or three years, let us consider the other side of it. Suppose they had not been able to get fair

prices for their crops, where would they be today? Fortunately the real wealth of this State has increased because of the diversity in the State, and the war causes interfered with transportation to such an extent that our farmers could not get corn and hay and oats and hog meat shipped into the State on the former grand scale.

The increased values of the crops produced in this State reveal that the monetary returns to the farmer have been sufficient to keep pace with the rising scale of prices which the farmers have to pay for other things—and that's about as far as the farmer has got yet.

THE FARMER'S INVESTMENT.

It is insufficient to say that the cotton seed oil mills are a godsend to the farmers because they offer an opportunity for the farmer to find a market for what is now a commodity but a generation ago was considered of no value on the farm. It is true that the world is indebted to scientists for showing that oil may be pressed from cotton seed, domestic oil of the highest grade, and the world is indebted to the crushers for investing in property to press the oil out of the seed. But I contend that the world is no less indebted to the farmer for growing the seed. It requires a greater investment to grow one bale than it does to spin five. There is a greater investment in the soil that produces the seed than there is in the industry that presses out the oil content and sells back to the farmer the meal and the hulls and the linters for about the original cost of the seed. I do not consider that the farmer should be called upon to be a loser in this transaction, especially as seed cannot be stored like the lint without losing some of the value of the seed. The reduction of production at the hands of the boll weevil will make seed in greater demand for planting and for crushing. Consul Homer M. Byington at Hull, England, has made an interesting study of the conditions in that city which is the largest vegetable oil center in Europe. He reports that so great has become the demand for a "butter," consisting of 4 ounces of margarine and 2 ounces of butter, that the public had to be put upon a ration. He states that several large factories have been built at Hull. So, I would say to our farmers that in 1920 they should stand together for fair prices for their cotton seed, peanuts and other vegetable oil-bearing products. The demand will be there. Kel-

logg and Taylor have demonstrated that there is not enough butter fat to go around—indeed a great deficiency.

NO MORE BUMPER CROPS.

In 1904, 1906, 1908, 1911 and 1914 the South produced bumper crops of cotton, only to have to take prices that were on an average below the cost of production, if the producer had been allowed a living wage for his labor. Repeated experiences of this kind have led the farmer to dread years of big crops, because they almost invariably mean low prices and little or no profits. Such experiences have led to permanent crop diversification, and the movement of hundreds of thousands of farm workers to towns and cities.

In the old days, the Southern farmer had to raise cotton or nothing; now he may raise other crops, or he may quit farming entirely for work that pays better wages. He is doing both, as a matter of fact. Cotton requires a tremendous amount of hard labor, and this labor has already found that if cotton-raising cannot adequately reward it there is a big demand for it elsewhere.

Cotton growers of the South can and will supply the world with all the cotton it needs. But before they do so, they are going to demand some assurance of a price that will afford a living wage and a decent living standard for themselves and their families. The sooner the spinners and the consuming world realize this truth, the sooner will they get the supplies of raw cotton they need.

A BLESSING IN DISGUISE.

There is being expressed these days a lot of sympathy for the farmers in the path of the boll weevil. I myself feel that same commiseration. This department has been warning the people for ten years. But I fear the psychological effect of too much pitying the farmer. I would like to tell him to walk up to his troubles and smash them. "Absent treatment" never cured a trouble. The longer a man postpones an issue the stronger it grows. The time to have begun to fight the boll weevil in South Carolina was the day it crossed the Mississippi River. I think the boll weevil will prove a blessing to our people if they are prepared to make a shift of crops. I do not wish to see them become hysterical, but now is the time to win the fight for a balanced agriculture for South Carolina.

THE MAN WHO DOES SOMETHING.

At an address in Lexington County, in July, 1919, in discussing "The Possibilities for Diversified Agriculture in South Carolina Under Boll Weevil Conditions," I said in part:

"As the boll weevil has now made its appearance in ten of the costal plain counties in this State and probably will cover ten more counties this year under favorable weather conditions, the quarantine has been raised and the cattle fever tick has been eradicated, it behooves our farmers to diversify their crops for successful agriculture. That means more live stock for each farm and, of course, the farmer will begin to inquire as to what breed is the best. I wish to say to the beginner that there is no best breed, for if there were it would have been found out long ago and there would be only that one breed now. I want to say to the farmer that he must study the conditions of his farm and add to his agriculture that class of live stock to which his farm is adapted, if he expects to make money out of it.

"I would advise the farmer who adds live stock to his farm to begin in a small way and grow into it rather than going into it before he learns how to grow feed and take care of stock. It is an easy matter to buy if you have the money and it will be just as easy for you to get out of it if you do not know how to handle and take care of stock. There is no country that has so many natural advantages as the South and especially South Carolina. For successful live stock husbandry in the first place we do not have to have the expensive barns for the winter. Then we can grow so many forage crops to graze them on in the winter, for we can practically graze them 300 days in the year. Cattle treated in this way are not so susceptible to that dread disease tuberculosis. Some of our best winter grazing crops for the coastal counties of this State are abruzzii rye, barley, oats, vetch, rape, turnips and mangle wertzels. The last two can be gathered and fed when the ground is too wet to be grazed. They will stand our mild winters and can be gathered and fed as needed.

"Then we have the velvet bean that can be planted in our corn which does it very little, if any, harm. The corn can be gathered and then cattle and hogs can be turned into the fields and grow fat on the beans. Also the soy beans can be planted and treated in the same way and cattle, hogs and even sheep can be added to our farms which will be profitable if handled intelligently.

"One of the greatest profits from this class of farming is the improvement to the farm. After all a man's farm is his bank. If he does not farm in such a way as to make it better each year it will get too poor to support him. The man who diversifies his farm loves his family more and makes a better citizen and a better citizenship makes a better country. When such a man dies the country will mourn at his death."

A WISE PLAN OF FARMING.

I wish to commend to the farmers of South Carolina the agricultural policy of the A. & M. College of Texas. That State was the first to suffer dreadfully from the boll weevil. Here is what the director, Dr. T. O. Walton, says of cotton planting for 1920,—and I claim that the policy of this Department has corresponded with that of Dr. Walton:

"Realizing the possibility of the farmers of the South being attracted by the high price and thus induced to plant an excessive acreage to cotton the Directors of Extension Services worked out plans for bringing to their attention the importance of a well-balanced farm program. It was recognized that the present prosperity enjoyed by the farmers is not due to prevailing prices of cotton alone, but rather to the fact that farmers have been producing their home supplies to a greater degree in the past four or five years than during any previous period, and if they are to continue prosperous they must first provide for living at home.

"Under normal conditions it is estimated that the 1919 cotton acreage would have produced from 15,000,000 to 16,000,000 bales, whereas the October estimate is only about 10,000,000 or more than one-third less than normal possibilities, and it is likely that this estimate may lack much of being realized.

"However, a similar acreage in 1920 would probably produce a crop which could not be marketed at profitable prices. Therefore, the 1920 program will advocate that a sufficient acreage be set aside to produce an abundance of food and feed crops, and that the surplus land be planted to cotton.

"Living at home, keeping a few pure bred live stock for marketing the surplus, and adequate storage facilities, so that banner crops may be saved until needed, instead of wasted or sacrificed, will be the leading factors."

THE CURSE OF THE SOUTH.

The long credit system has been the curse of the South. I refer particularly to open accounts. Many thousands of merchants have gone into bankruptcy in years gone by because they extended credit from January to January and they had annual settlements with their customers. Likewise tens of thousands of our people have been spendthrifts because it was so easy to buy on credit.

Therefore it is with real joy that the Commissioner observes the presence of so much cash money in the State. This is due in large measure to the wage increases. I urge on people to pay cash for everything when they have the cash. Better do without for awhile than to go into debt. For when one pays the cash, he can demand good value for his money. When he accepts a credit accommodation he loses his independence.

It astonishes me sometimes when I consider that the injustices done our forefathers by the mother country were really no worse than some we have suffered for 50 years because we were a debtor section of the country, and, therefore, lacking in the capacity for resentment against the tyranny of creditors.

I intend by this to say plainly that our forefathers fought for less than we have had to endure, but our liberation has come with almost as much suddenness as our dejection. Let us beware. Stay out of debt. Be independent.

I would advise our people that they should not waste their money—any more than their time. There is no telling how long these conditions of plenty and of comforts will remain with us. The time may come when the South may require the cash that she has. I do not wish to be a pessimist, but I fear that the world, including ourselves, is yet to face hunger and hardships. There is no other prospect unless we produce more, use the soil more to make things for man and beast to eat.

I do not think that the prosperity of South Carolina is due to any rise in the price of cotton, although that may be a factor, for it has cost money to grow the present crop. But the increase in diversified crops is the greatest factor in the wealth of the State.

Let us look at Darlington County, for instance. This was, I believe, the first county to begin the growing of tobacco. Of course, tobacco, like cotton, has brought heartaches to the farmers, but for the last three seasons the profits have been considerable. In addition to this there is at Hartsville, in that county, one of

the best long staple cotton markets in the United States. Fully 75 per cent. of the cotton of Darlington County brings a premium. It costs no more to cultivate it or to market it and yet it has brought fifteen cents per pound more—because there is a demand for it. (That rule should apply to all cotton prices, when the demand is greater than the supply, as in 1919.) The farmers of Darlington County are in better circumstances, perhaps, than those of almost any other county in the South.

A banker in one county where there is diversified farming has made the statement that he has found it difficult to lend money to the farmers. He has been lending it as far away from home as St. Louis, Mo., for commercial uses.

THRIFT OR WASTE? SUCCESS OR RUIN?

In the rapidly changing order of business, of thought, of life itself, the people need the advice of sane leaders. The Commissioner, relying upon the statesmanship of Bright Williamson of Darlington, a student and philosopher as well as a successful man, has asked him to present the great need and the great future of our State. Mr. Williamson says:

“Agriculture is the bedrock and foundation upon which every industry must stand or fall. All the people either prosper or fail to prosper in proportion to the abundance of the harvest of the soil, for upon agriculture depends the success and happiness of the world.

“The agricultural resources of South Carolina are as yet undeveloped, and the development of these vast sources of wealth hold forth the promise of returns in the near future that are not to be measured in ordinary terms. South Carolina occupies a splendid geographical position on the South Atlantic seaboard, extending from the Atlantic on the east to the beautiful Blue Ridge Mountains on the north and west, possessing fertile lands susceptible of being made more fertile and infinitely more productive; a temperate and salubrious climate without the extremes of either heat or cold; a well distributed rainfall throughout the year; with well drained and mostly level lands, watered with numerous branches, creeks, and rivers; together with other natural advantages that make it primarily an agricultural State.

“South Carolina, the smallest agricultural State in the Union, has by rapid strides risen to be twelfth in the total value of its farm products, and it now ranks first in point of value of its

agricultural products per acre. This one fact alone should establish even more than what is claimed in regard to our resources, advantages and possibilities. While agriculture is now and will likely continue to be the chief industry of its people for many generations, incidentally South Carolina stands second in the manufacture of textile products.

"The various natural advantages of our State make it possible for our farmers to engage in the production of a large and varied diversity of good paying crops. Our present standard crops will probably be our principal crops for a time at least; while it is quite possible that other crops will become profitable at times in the future.

"It is most encouraging and gratifying to note the growing tendency towards diversification. For a long time extremely low prices—starvation prices—of our principal money crops denied us the opportunity to experiment and learn how to diversify, for any changes of methods and practices is necessarily attended with cost and expense incident to adjustment to new conditions. One of the great benefits resulting from our recent prosperity is that the farmer has been enabled not only to discontinue the ruinous policy of planting all cotton and other unwise practices, in order to obtain sufficient credit to continue the operations of his farm, but to plan his farm along sound and safe lines.

"The most important development that has come to our State, but too recent for its beneficial effects to be felt, is the eradication of the cattle tick, which places South Carolina in a position to raise cattle profitably, an industry wholly unprofitable under previous conditions.

"The last three years has brought to South Carolina merited, but long delayed, prosperity in even greater measure than we had hoped for. It is well known that our Southern people as a whole are not a saving and provident people, and it is unfortunate for us that this is true, and that every one to whom the opportunity has been presented has not availed himself of the chance to save and gain a competence.

"One circumstance that causes many people to spend more recklessly than they otherwise would do, is the fact that their holdings which are the same they were five or ten years ago are measured in a greater number of dollars. The man who owned a farm and perhaps his stock and implements and who accounted himself worth \$15,000 or \$20,000 then, can now sell his holdings,

which are really no more valuable, perhaps, for \$40,000 or \$50,000. He owns no more property than he formerly owned, and its exchange value is no greater, but he imagines that he is far richer, and lending himself to the thought, he spends more than he otherwise would. Let us not be deceived by our depreciated currency. While we are well able, let us build for the future, and out of our abundance and prosperity we should now provide, for if we fail to make reasonable provision in the days of plenty how can we expect to be able to do so when the day of adversity overtakes us?

"It is just as impossible for one without the ability to save to make a business success of life as it is for a sifter to hold water. Both are impossible. All that any man has or is worth is what he has saved, whether he inherited it or made it. Saving is a habit, a good habit. Spending is also a habit, a bad habit. The more one practices saving the easier it becomes. The more one practices spending the harder it is to break the habit. Saving and thrift will enrich our people and our State. Better still, the practice of thrift, frugality, and providence in reasonable proportions make of us better citizens socially, mentally and morally.

"Permit me to say that one most essential quality that the people of the State must learn and practice is the habit of saving. No people can ever become independent who do not save. It matters not how much one makes, his ability to acquire property or a competence depends solely upon his ability to save a part of his earnings. There is no one thing that I had rather impress upon our people than the importance of cultivating frugality and a habit of saving, or at least until a sufficiency is laid by to provide against all ordinary contingencies. Let me remind them that Rockefeller, Carnegie, Frick, Hill and others commenced life under most ordinary circumstances, yet acquired great wealth, systematized and organized forces for the development of the vast resources of our country.

"A great philosopher once said that if he could teach his boy only one thing he would teach him to think. James J. Hill, probably the greatest constructive builder that this country has ever produced, said:

"If you want to know whether you are going to be a success or a failure in life you can easily find out. The test is simple and infallible. Are you able to save money? If not, drop out, you will fail as sure as you live. You may not think so, but you

will. The seed of success is not in you.' James J. Hill never made a truer remark, he being not only a saver but also a great thinker. Habits are seeds—each brings forth after its kind. Do you want to 'drop out'? If not then take care that you sow the seed of success.

GREAT IS DARLINGTON.

"I wish to refer briefly to the history of my own county of Darlington. Twenty years ago the money crops of Darlington brought to the farmers of the county less than \$1,000,000. Ten years later they sold for \$1,500,000. About this time our farmers began to diversify to some extent and turn their attention to live stock. The long staple cotton industry was developed and five years later our money crop sold for \$3,500,000. In 1917 our money crops brought \$10,000,000. In 1918, \$12,000,000, and our 1919 crops at present prices will bring to the farmers of our county \$14,000,000. Besides this our farmers have raised a large portion of their hay and grain. In the last four years more than forty carloads of hogs and several cars of cattle have been shipped to northern markets, and one farmer running only a six-horse crop last winter shipped three cars of hogs himself. Perhaps some counties have surpassed what Darlington has done, for what Darlington has done any other county can accomplish.

"The prosperity of the county is reflected in the bank deposits of our county given below:

1908.....	\$689,234.04	1915.....	\$1,664,326.28
1910.....	1,303,968.15	1919.....	7,750,000.00

"A great portion of the accumulation of our farmers in recent years is represented in improvement and increased fertility of their soil, and it is largely due to this that they have been enabled to obtain as great profits from their farms. So great has been the profits during the past two or three years, as the result of both increased fertility and better prices, that many farmers bought lands at seemingly extravagant prices, and after deducting all expenses made enough to more than pay for the land the first year. This one fact alone demonstrates potentially the absolute necessity for further and still further soil improvement in order to obtain the greatest possible results from the soil.

"In conclusion I wish to emphasize the opening paragraph of this article. Agriculture is the bed rock and foundation upon

which every industry must stand or fall. All the people either prosper in proportion to the abundance of the harvest of the soil; for upon agriculture depends the success and happiness of the world. And finally permit me to say that some who are recklessly spending and burning money today may be sifting ashes tomorrow."

SEES DANGER SIGNALS.

One of the well known citizens who have written good advice on the outlook is David R. Coker, chairman of the State Council for Defense. The following is an article from him:

"Danger signals are flying from the mast-head.

"Strikes or rumors of strikes are prevailing all over the country.

"Wages of even \$10 to \$15 a day (which some of the coal miners have recently been earning) do not deter some classes of labor from calling for more.

"Capital in many industries is reaping unheard of returns.

"Money seems plentiful but has small purchasing power.

"Interest rates are climbing and the reserves of the federal reserve banks are approaching the legal minimum.

"Socialism and even bolshevism are making progress in many sections of the North and West.

"The South is strong because social unrest is at a minimum here, because our people are habitually conservative, and because they have become financially strong.

"We are, therefore, in a position to help the nation by our financial strength and by our conservatism to weather the storm through which our country and the world is passing.

"But, to do our duty to ourselves and to the world, we must recognize and wisely solve some problems of our own which under less serious world conditions we would consider most grave and perplexing.

"Many of our people are not saving money and are spending extravagantly and foolishly to their own hurt and the injury of society.

"Speculation is all too common and many are borrowing 40 cents dollars to put into more or less speculative ventures without thinking of the probability that they may have to liquidate their debts with 100 cents dollars in hard times.

"The weevil has swept across the State almost to the foothills. Sane business judgment requires that every farmer, every banker,

every professional man, and every merchant carefully consider the agricultural and general financial prospect which the boll weevil brings with it.

"Governor Manning, Dr. Briggs, Dr. Long, Mr. Bright Williamson, and other faithful and reliable thinkers who have studied the boll weevil problem have pointed out the steps which ought to be taken to weather the financial storm which invariably follows in the wake of this terrible pest. They tell us that in almost every part of the cotton belt west of us the farmers have planted big cotton crops one year too long and have suffered staggering losses because they have delayed their preparations to meet boll weevil conditions.

"I do not advocate the wholesale abandonment of cotton, but I do advise that every farmer, banker, and business man in the State make a careful study of the program so carefully worked out by the farm demonstration bureau; that every farmer raise ample food stuff for home consumption, put in such live stock as his farm will carry, plant (experimentally at least) those money crops recommended by the farm demonstration bureau which have proved successful in similar boll weevil territory west of us, and above all stay free of debt and accumulate as large a stock of actual cash in bank as possible.

"In view of the present rather critical financial situation no one anywhere should borrow money for speculative enterprises of any kind.

"Heavy cropping to cotton in boll weevil territory is a highly speculative venture.

"Even as far north as Newberry County a very late crop or a very wet season may bring severe boll weevil damage in 1920.

"Under present conditions the banker or merchant who makes indiscriminate credits for heavy cotton production is not only risking his own capital but is doing a disservice to the country.

"The South is apparently winning her strenuous fight for fair prices for cotton. The people of the State are in the best financial condition in their history. Let us all pull together to conserve the financial resources we have recently accumulated and go steadily forward in our struggle for economic independence, wisely heeding the danger signals and following the well known rules which will protect from disaster."

SIGNS OF THE TIMES (By Lowndes J. Browning, Sedalia, S. C.)

The year 1919 has made decided changes in the outlook of the farming population of our State. Possibly the most notable change is that many cotton growers now put a price upon their product and calmly wait until the buyer comes to their terms. The credit for this is due very largely, if not entirely, to the campaign of education which has been waged by the American Cotton Association, to which campaign you have very largely contributed. Our people being so much better informed upon the subject of cotton marketing, they have naturally acquired much more information upon other matters pertaining to agriculture.

Many farmers who formerly bought fertilizers without paying any attention to the analysis, now purchase by the analysis entirely, and insist upon knowing whether the ammoniates are quoted as ammonia or nitrogen, and also the source from which it is derived.

I predict that the boll weevil will do less damage in the upper half of South Carolina than in any other territory he has yet invaded, not because it cannot ruin cotton production, but because the farmers in this section are awake to the danger and have studied the best methods of meeting him successfully.

There have been more registered hogs brought into this section during the present year than in all its previous history. Also a large number of beef bulls have been bought and quite a number of beef cows. While there has been some little agitation in regard to tobacco growing, I do not think that it will be adopted to any great extent as a money crop in this section, but I feel confident that in a very few years this section will be exporting both pork and beef in much larger quantities than is imported. At the same time I think that cotton production will remain as large as at present, provided that the price remains satisfactory.

Looking over the entire agricultural field, we can truthfully say that it is on a sound basis. I believe myself that the boll weevil will prove a blessing, because he forces diversification, and our people are beginning to diversify before the weevil reaches us. His advent also means the death of the present tenant system, absentee landlordism and the boll weevil will no more mix on friendly terms than will alcohol and gasoline.

In conclusion I wish to commend you and your assistants for the splendid work which your department is doing in leading our farmers along sane and profitable lines.

SOUTH CAROLINA'S GREATEST NEED (By J. F. Jacobs of Clinton).

Any one who is familiar with the conditions of farm life today in South Carolina, as compared with the conditions of twenty-five years ago, must be greatly impressed with the huge improvement. Where there was poverty, now there is comparative wealth. Where there were few or no conveniences, now, in many cases, farmers have improved machinery, better homes, better stock, cattle, poultry, hogs, richer lands, more conveniences about the home, and not a few of the luxuries of life. The productivity of the land has been tremendously enhanced, while the prices of farm products, especially in the last few years, have enhanced immensely.

To this is to be added rural free delivery as against Star route infrequent mail delivery; rural telephones as compared with a slow traveling messenger as a means of communication. Better agricultural and county papers, and better dailies are now being delivered to the farmer who twenty-five years ago received but little literature. Schools and churches in many sections have been greatly improved. Indeed farm life, as compared with twenty-five years ago in South Carolina, would hardly know itself.

There remains, however, one serious bar to progress in agriculture in this State. It is the absence of good roads, resulting in slow, arduous, expensive local transportation. The product of the farm has to bear too huge a tax in the way of cost of transportation to make farm life a very desirable business proposition. Towns and cities without railroads could hardly exist, or if the railroads were of such inferior character as to make service infrequent, expensive, dangerous and painful, the growth of the towns and cities would be greatly impeded. It is just so with farm life. The farmer does not like to suffer in long trips over muddy roads in cold weather. He does not like to see his stock run down by having to pull through almost impassable mud or heavy sand. He cannot use the improved methods of locomotion advantageously when the roads are impassable, and for a great part of the year they are practically impassable for motor vehicles, or if motor vehicles are used a tremendous expense in the way of damage to the vehicle, lost time and excessive use of gasoline and lubricating oils is involved, as well as excessive damage to tires. It is a matter of small consequence to a farmer whether he lives five or ten miles from a good town, if he has a good all-the-year-round fast road connecting him with his market.

The man who engages in farming in most sections of South Carolina has to take into consideration his distance from town multiplied upon the difficulties of the road, and in most sections of the State those difficulties are so extreme as to constitute a handicap involving hundreds of dollars of loss each year per farm. In this loss is included a huge waste of time, damage to wagons, harness, mules, horses, slow transportation, frequently impassable roads or impassable streams, absolutely blocking transactions with the great world without.

If motor vehicles are used the bad roads involve a heavy tax in damage to tires, injuries to machinery and car bodies, as well as to the driving machinery, waste of gasoline and lubricating oil, and frequently great waste of time. If a careful survey were to be made of the expenses involved upon South Carolina farmers by bad roads it would be seen that they are bearing a tax running to many millions of dollars per annum in excess of the tax which they would have to pay to cover interest on construction and expense of maintenance of a good road system, not to mention that a good road system would so enhance the farm property of the State as to bring to the State an enhancement of farm values vastly greater than the cost of the roads themselves.

The cities and towns have by reason of legislation been enabled to solve their paving problems by assessing abutting property to cover either all or a portion of the street improvements such as sidewalk paving and street paving. This enables the cities and towns to construct hard-surface streets, improving the health and convenience of the people, reducing loss in transportation and damage from dust, mud, etc. Every town which invests in this way very soon realizes that the investment is a wonderfully profitable one in that it cuts down so much of loss and so greatly expedites business as to be a real economy instead of a burden. It seems singular that the principle applied in towns and cities is not also applied in country places.

Assessment upon abutting property to bear part of the cost of road building would be an absolutely just treatment of the question of equalizing the burden. The State at large might bear half the expense, the nearby and abutting property a large part of the remainder. The more distant farms not abutting upon the roadway, but profiting thereby, might bear a lesser assessment. A gradation of this distribution of burden might readily be worked out which would be entirely just and be relatively easy to bear

when the actual advantages accruing are measured as against the cost. For instance, a hard-surface road costing \$30,000 per mile would in most cases add easily more than \$100.00 per acre to the value of the abutting property. In some cases it would add \$500.00 per acre to its value, and the more remote properties reached by the road would have enhanced also, though in less degree. It would be good business for any farmer whose property would be so enhanced to make an investment of a portion of the improvement, and it would not be difficult to place from \$5,000.00 to \$10,000.00 of the road cost in direct assessments, payable during a series of years by the property owners whose property is thus benefited, the State taking the remainder of the expense upon itself as a whole.

A system of note financing covering road assessments might readily be worked out whereby the farmers would pay but a low rate of interest upon their notes and pay the notes in easy instalments, the notes being guaranteed by the State and being a first lien upon the property. The towns and cities, of course, would have to pay their tax to build the country roads without directly gaining any enhancement of city and town property, since the country road would not be built in towns and cities, but the general improvement of trade conditions would result in enhancement of city and town property by reason of the enlargement of the activities of the people, the increased production and the resulting larger volume of business. Every citizen in the State would be benefited by a general good roads system throughout the country places.

The main lines between important points should all be of hard surface, permanent construction; the less important roads of sand clay, and the farm roads should be properly drained and shaped with perhaps light top-surfacing to avoid mud in the hill country, or with clay applied in sand country. It will be safe to estimate that \$100,000,000 spent in South Carolina on good roads would be worth three times the sum to the citizens of the State in saving and enhancement.

THE BOLL WEEVIL.

A PROPHETIC STATEMENT.

"The man who fondly believes the coming of the boll weevil a myth deserves sympathy. The boll weevil situation being such, it would seem that, as a matter of protection to every material interest in this State, every energy should be bended right now to the fullest possible preparation for the form of agriculture with money crops in the programme that absolutely alone can save the day and bring about prosperity. The course is clearly charted. Whatever step is taken in such a programme should be taken with a view to permanency."—Col. E. J. Watson, in the annual report of the Department, 1914.

THE TENANT AND THE BOLL WEEVIL.

Along with all other men who have given the matter thought I believe that the ideal system of agriculture is the small home-farm, tenanted by its owner. But such a system cannot become a characteristic of this State for many years, I believe. There are some counties which were divided into a few great plantations. The white population in those counties was not large.

When the War of Secession was over, those plantations were filled with a large number of "free" negroes, and the system of agriculture "went to the dogs." The owners became land poor. The land may have changed owners, but usually in bulk. I do not refer especially to the coast counties, but I have in mind old Edgefield (not the new), old Abbeville, Union, and Fairfield. Large plantations have been a drawback to the developing of those counties.

I do not say that tenancy is a curse. In some ways tenancy is helpful to a section and the system is helpful to the tenant himself. A worthy man may have no capital with which to buy land or to improve it. By becoming a tenant, he goes into partnership. The same thing is done in every other business without disparagement to the partner, who furnishes the time, work and brains. Yet the tenancy system is too open to abuse and too frequently abused.

Only two States have a greater tenancy percentage than South Carolina and they are Mississippi and Georgia. In 1910 there were 176,434 farms in South Carolina and of these 65,213 or 63 per cent. were operated by tenants. The next census will, I believe, show a great change in this ratio, for I am sure that several thousand small farms were bought by tenants in 1919 alone.

In my view the boll weevil and the tenant farmer are in the trenches for a battle. I believe with Professor Gee that the opportunities of landowners, merchants, bankers and business men to aid in this program of education for readjustment constitutes a responsibility, for it is the tenant farmer, as a rule, who is most inaccessible to the ordinary methods of propaganda. "He must be reached by the direct contact of those who are accustomed to advise him in his business affairs."

I have observed with some amusement the platitudes of some of our great corporate industries that will be directly affected by the boll weevil. They have done a good deal of talk about helping the farmer to change his agricultural habits and methods, but at last accounts these corporations were "passing the buck" to the legislature to hire demonstration agents to do the work. That's one way to do it—and perhaps, after all, the better way. For the tenant farmer might become too dependent for his own good and might never get out from under the "helping hand" of the corporations.

DUSTING FOR BOLL WEEVIL.

While visiting the Agricultural College at Denton, Texas, during the summer, I made inquiry about the Coad method of dusting poison powders upon cotton plants to kill the boll weevil. The Extension Department of that State appears to have been quite active, but could not definitely recommend any method of spraying the poison, which seems effective enough if it can be applied properly.

During the meantime every cotton farmer should take the precautionary methods advocated by the service in its fall clean-up campaign, which consists in destroying all hibernating weevils possible. In fact, the practices advocated in the clean-up campaign are practically the same as those demanded in good farming, such as fall plowing, destruction of the remnants of old crops, cleaning fence rows and corners, destruction of weeds, etc.

In Georgia Dr. Andrew Soule claims to have had some definite results. I am not prepared to make comment, but I will merely state that the use of calcium arsenate had made possible an increase of 309 pounds of seed cotton per acre where the weevils had previously destroyed the crop. It is estimated that the weevil damage in Georgia will be more than \$20,000,000 for the 1919 crop, but I believe that the loss in South Carolina already will be around ten million, from the weevil and bad seasons in conjunction.

PEANUTS IN THIS STATE.

It is estimated that South Carolina this year produced 629,000 bushels of peanuts. That is quite an increase over former years and will be still further increased in 1920. The cotton seed oil mills, realizing that the crush of next season will be greatly reduced on account of the boll weevil cutting down the crop, see the necessity of having a substitute for cotton seed. Three years ago the oil mills advocated very widely the planting of soy beans. This Department warmly endorsed the idea. It is stated that the planting of soy beans was greatly interfered with because of the lack of proper harvesting machinery. The Department deplors that fact, for there is no doubt that the soy bean would be better for the farmer. For while it might not produce as much oil, and, therefore, would not immediately become as desirable as a cash getter, yet the soy beans puts back into the soil, while the peanut constantly takes from the soil and must be followed with commercial fertilizer. It is obvious, therefore, that it is easier to get oil mills and fertilizer makers to interest themselves in peanuts. The soy bean is not only a remarkable soil enricher, but it is a great forage crop.

The South added a million bushels to the peanut crop of 1919. Alabama leads as a producer, but her crop is reported to show a decrease of 1,700,000 bushels this year. But the States west of the Mississippi—Arkansas, Oklahoma, and Texas—show great increase. Texas alone has an increase of 5,000,000 bushels. The estimated production by States is as follows: Virginia, 4,795,000 bushels; North Carolina, 5,498,000; South Carolina, 629,000; Georgia, 9,979,000; Florida, 5,336,000; Tennessee, 400,000; Alabama, 14,708,000; Mississippi, 117,000; Louisiana, 81,000; Texas, 12,478,000; Oklahoma, 556,000; Arkansas, 936,000.

The Commissioner while in Texas attending the National Good Roads Convention, gathered quite a lot of information about peanuts which he intended to give to the people of the State, in the way of talks at county fairs and such gatherings, but he was prevented from doing so by a severe and prolonged illness, which practically incapacitated him for more than two months.

The oil mills in South Carolina need 500,000 tons of them to keep running all the year, and are willing to pay good prices for them at all times. The average price during the last three years for farmer's stock has been over \$100 per ton, and today they are worth \$200.

The Commissioner observes that the farmers of the State must organize for self-protection in marketing peanuts just as they would have to do in marketing cotton, tobacco or cotton seed. While, no doubt, there is great and universal interest in the welfare of the farmer, yet it is the nature of any individual or enterprise, no matter how altruistic, to look out for its own interests when the farmer is being given a little friendly turn.

Peanut meal has proved to be a satisfactory and profitable feed for finishing beef cattle. The North Carolina Experiment Station at Edgecomb determined this in 1917. Since peanuts can be grown as easily in South Carolina, the value of peanut meal, the by-product, is very evident. A North Carolina farmer fed 24 cattle, made a profit of \$71.26 in 120 days and gathered 75 tons of manure. Peanut meal is recommended as a complement to corn silage in finishing beef cattle.

Not a single pound of cotton seed or peanut meal will be shipped out of any of our Southern States in which it is produced when our farmers realize its worth for feeding animals and plants. Yet at present only a fraction of the supply is used here. By far the larger portion of it goes to the North and West as cotton seed meal, or across the ocean in the form of cotton seed meal and cake. If those feeders can afford to pay the high prices which include the extra freight, handling and commissions, how much more can our Southern farmers afford to use it? Live stock and dairy should consume here all our cotton by-products and make enough manure to restore our lands to full yields. This way leads to prosperity.

FAULTY ESTIMATES ARE COSTLY.

The Peanut Grower is a weekly publication of Suffolk, Va., devoted to the interests of peanut growers and the industry. It is the kind of publication the cotton growers of South Carolina have needed and yet will need. It is the kind of publication the tobacco growers and the peanut growers of this State will need.

Far be it from me as Commissioner of Agriculture to suggest that any person or combination of persons in this State would exploit the farmers and minimize or take away entirely the profits earned on the farms, but such things have been done—and yet the world wonders why the farmers are suspicious of “Greeks bearing gifts.” It is because the hard-headed, perhaps ignorant and misguided old farmer has been “stung” in the past and looks behind self-advertised altruism to find if it is a bait for him.

In the last issue in December of the Peanut Grower I find a statement which reminds me of charges made by the South Carolina Cotton Association. In a ringing editorial, this publication denounces the Bureau of Crop Estimates in Washington for its manhandling of peanut figures. After a year of persistent effort, the peanut growers have forced the bureau to “revise” its peanut figures of 1918.

“It is at least refreshing to know that those 1918 figures have at least been revised, even if it has taken more than 12 months to effect the revision,” says the Peanut Grower. “The one conclusion to be drawn from these changing figures is that the Bureau of Estimates must be brought to realize that there is far too much at stake in a great crop like peanuts to have reports issued on a kind of hit and miss system.”

Those wild estimates on the 1918 crop cost the growers in Virginia and North Carolina alone millions of dollars last year, and there can be no doubt that the price would have been better throughout the present season if it had been known that the crop was only 36 million bushels instead of 44 million.

All of which corroborates in a way the complaint of the American Cotton Association that there has been too much amateur or “hit or miss” work in the Bureau of Estimates on the cotton crop. These are too serious matters to be trifled with. The government professes to have great interest in the farmers and immense appropriations are made to “help the farmers” by demonstration methods, but the greatest help that could be given to the farmer would be to quit interfering with their prospects of getting fair

and just prices for their commodities. And the incorrect crop estimates of the bureau is nothing less than an interference though the intentions may be entirely honorable.

In the case of the peanut growers, the price of their product jumped up from 8 cents to 10½ cents when the government revised downward its guess as to the size of the 1919 crop. If cotton farmers were given the same fair and considerate treatment, I am sure that the crop estimates for 1919 would have been lower and nearer the truth—as was pointed out by myself and also by President Wannamaker and later by President Nixon.

THE BOLL WEEVIL PROBLEM IN SOUTH CAROLINA FOR 1920.
By Prof. A. F. Conradi of Clemson College, State Bacteriologist.

The Mexican cotton boll weevil entered the State of South Carolina in the fall of 1917 at Daufuskie Island and before the close of the season it had advanced northward over Beaufort County and had reached a point a few miles above Hardeeville. The very severe winter of 1917-18 gave it a backset, but owing to the favorable conditions existing in some areas of the invaded territory it passed the winter successfully near the coast. In 1918 the weevil advanced northward and eastward to a line drawn from a point on the Savannah River a few miles below Augusta to Mount Pleasant on the Atlantic Coast. While the advance during 1918 was below normal owing to conditions which did not stimulate migration, the conditions in 1919 were as favorable for dispersal as they had ever been in the course of the weevil's progress over the cotton belt. The growing season was extremely wet which was suddenly followed by a dry season when cotton discontinued fruiting. The weevil found no more squares and started its migration and continued northward and eastward until it reached a line passing through Anderson, Chesterfield and McColl and through North Carolina down to Wilmington. This migration was due merely to the conditions stated and was not supported by any storms or gales in advancing the pest. The advance was uniform along its entire front.

The weevil will, therefore, enter its third year of establishment in Beaufort County, its second year of establishment in Allendale, Hampton, Jasper, Colleton, Charleston, Dorchester, Barnwell and Bamberg counties and its first year in the remaining territory, in 1920. We are continually asked to forecast weevil damage for this State in 1920. This cannot be done by any one

with any great degree of dependence owing to the facts that the weevil damage is directly dependable on winter minimum temperatures or summer rainfall or both. Furthermore, in invading South Carolina the pest appears under climatic conditions presenting new features and it will be necessary to see the pest in action for at least one year in this State for the students of this insect to get their bearings.

It is a general rule in the history of weevil damage that little injury occurs during the first year after the weevil's appearance during the previous fall. The first year after its appearance is called the first year of its establishment. Serious damage may be expected under favorable conditions, especially on low lands, during its second year of establishment, and if the pest receives no backset it may be expected to develop full strength the third year of its establishment. By this rule severe weevil damage may be expected in the southwestern corner of the State and serious damage may be looked for in the counties enumerated as having been invaded during 1918.

Taking a bird's eye view of the situation as existing in South Carolina and comparing it with the history of weevil damage throughout the Gulf States we may set down the following proposition as a conservative one to guide us in 1920:

1st. That the weevil has entered South Carolina and will be a permanent limiting factor in cotton production.

2nd. That if the winter minimum temperatures are low and the season of 1920 is dry then comparatively little damage may be expected in any counties of the State. If, on the other hand, we should have a wet season serious damage may be expected in all the counties below a line drawn from Augusta to Charleston and also in the lowlands of Berkeley, Williamsburg, Georgetown and Horry counties in 1920.

3rd. That no serious damage is expected in the remaining territory of the State in 1920 except that there may be sharp sporadic damage in lowlands should a very wet season occur.

4th. Our farmers know little about diversification and under these circumstances a sensible and conservative program is recommended for 1920. To become excited and attempt an all diversification program without previous experience may be more disastrous than an all cotton program.

5th. In view of the shortage of the cotton crop and the prospects for satisfactory prices in 1920 if cotton is properly har-

vested, the temptation to plant a large cotton acreage is very great. It is recommended that every farmer start out with the determination that the farm shall be a place to live and not merely to exist, it must have a home and it must support that home. Before making revolutionary and radical changes toward diversification the question of farm labor must be carefully considered because there are two critical periods in the growing of a cotton crop, namely, the cultivation period and the harvesting period, and during these periods there is never enough labor to meet the demand. It is expected that the farmer produce the feed and food to sustain the home; this places the farm on a self-supporting basis to enable him to properly market his cotton.

The balance of his efforts are then toward the production of cotton as a surplus cash crop on acreage reduced according to his equipment and according to his ability and judgment to risk in cotton production in 1920. The substitution of cash crops for cotton is governed by local soil conditions, local experience and the assurance of good marketing conditions. In the history of weevil invasion substitute cash crops have been extensively used in some sections; in some cases these became permanent while in other cases they served only as stepping-stones in the readjustment of farming conditions.

During recent years extensive experiments have been conducted by the Federal Government in developing a poisoning method for the control of the weevil. At this time these investigations give sufficient promise to warrant a most thorough prosecution of the problem. The history of boll weevil control in this country contain a number of records of attempts at poisoning. The earlier attempts did not prove practical and it appears that this may have been due to the very crude state of our poisons and our apparatus for applying them. The progress in the manufacture of poisons in recent years has been very great. The arsenical poisons now produced are much finer and the process of manufacture is such as to greatly reduce the danger of burning plants as compared with the poisons of earlier days. The greatest problem confronting the investigators is that of proper machinery that have effective covering power and this phase of the question is at present receiving profound attention. The poisoning method has not yet passed the experimental stage and beside the perfecting of efficient machinery, there are a great many details yet to be worked out before definite and practical

recommendations can be made to apply to the many varied conditions found on the various cotton plantations of the South and our farmers are urged to be patient and let these investigators proceed for another year or two.

At present there is in sight only a limited output of dusting machinery, there being more calcium arsenate on the market than machines with which to dust it and for this reason all farmers are cautioned to be conservative about completing contracts for the purchasing of calcium arsenate. No farmer can afford to take any steps in this matter at this time before obtaining specific advice and directions from either the Federal Government or the Extension Service of the State in which he may be located. While the prospects are very encouraging at this time, there is every opportunity for planters in their eagerness to poison to make many failures and suffer heavy losses during the next couple of years by proceeding without proper advice.

While the boll weevil problem is recognized as the most serious disturbing element in our cotton production it must be handled with traditional American conservatism and stoicism. This may not be the only serious problem with which we will have to contend in the near future. While the Federal Government is making the most relentless and patriotic efforts to stampede or eradicate the pink boll worm the problem is such a colossal one that the success of these attempts must not be assumed to be assured and should this pest invade the cotton belt we will have a problem much more serious than the boll weevil problem. At present this pernicious pest occurs in South America, certain districts of Mexico and several points in Texas.

The European corn borer has been introduced in Massachusetts and New York covering an area of about five hundred square miles in Massachusetts and about one-half that area in eastern New York. This is regarded as one of the most serious insect pests that has ever been introduced at our shores, and tremendous efforts are now being organized to eradicate it from those areas it has invaded. Should this pest within the next few years succeed in getting a foothold in the great corn belt of the West and South then we will have another problem before us of the most gigantic magnitude. Every one has absolute faith in the ability and patriotism of Americans to successfully cope with tremendous problems. The boll weevil problem is with us now and it behooves us to attack it in a conservative and practical

manner by better cultivation, by the addition of humus, by the raising of home supplies to make the farm and home self-sustaining, and to stop the tremendous and preventable large and small leaks now so common on our South Carolina farms.

THE BOLL WEEVIL TIMES.

By C. P. Hodges of Brownsville.

No doubt owing to the boll weevil menace to this State's best interest, South Carolina, owing to our unfortunateness as to economic co-operation in our agricultural industries, we are face to face with a grave situation. Any disorganized industry is a demoralized industry, which quickly runs unto disaster. Now, for the past several years we have been a very prosperous people. We wish to maintain all the ground we have gained and to advance farther, which is impossible to do under the circumstances with present methods employed. Now every farmer and business interest in the State is anxious to know what we are to do that we may maintain our present condition and advance even far beyond our present condition and become permanently a prosperous and happy people. The agricultural interest in the State must be readjusted to meet new conditions that are now upon us. And I am pleased to say that this readjustment that gives some of us the nightmare to even think about, is all perfectly easy if we will only do it.

To begin with, the farmers in South Carolina for fifty years in their operations have been running counter to nature. God would never have given us a soil, climate, and seasons on which we could raise cotton, corn, oats, wheat, tobacco, peanuts, molasses, hogs, cattle, mules and horses, if God had not intended us to raise them. The foregoing gives us the well balanced agriculture. And we can no more prosper under the one crop plan than we could hope to sustain a healthy human body on bread alone. And because of the fact for fifty years we have stood studiously to the one crop idea, we have had disaster upon disaster, poverty, ignorance, and discontent beyond measure. And incidentally when a prosperous year or two would come we have forgotten our troubles over night. We have gone out into riotous living, we have thrown our reserve force (as we are doing today) to the winds, and, my fellow farmers, allow me to say to you that when calamity comes you can't expect to reorganize and readjust your affairs on the other man's money. All over the State the farmers

of all classes have lots of money, and I advise you to hold to it. If every community in the State will organize now to raise on every farm certain proportions of everything that will grow on that farm and begin now to practice rigid economy, use common sense and business judgment, if we would only employ such methods (and we will certainly soon be forced to do so) though the boll weevil covered every foot of the State another year we would still prosper and blossom as the rose. All of the State is now able to recognize and readjust its affairs for another year. Don't put it off. To delay—two-thirds of the State may be in the throes of disaster by next year. Other communities and States have gambled on this pest and untold disaster has been the result.

THE BOLL WEEVIL—ITS DAMAGES AND PROBABLE EFFECT ON THE AGRICULTURE OF SOUTH CAROLINA.

By J. Swinton Whaley.

Contrary to the expectations of the experts the spread of the boll weevil was much more extensive in 1919 than was looked for. This was on account of the fact that the weather conditions were ideal for its propagation, a warm winter and a rainy summer. The damages were very extreme as the planting was not hurried in the spring and the rainy season took the middle crop and the weevil the top, which under ordinary conditions is the largest part of the crop of the colored farmer. The Sea Island crop was especially hurt, being heavily infested, almost annihilated—so much so that it was looked upon by some as a crop of the past. We of the coast counties are facing a much harder problem than that of the middle and upper part of the State. Our labor has been demoralized and is leaving for the truck fields and that on the truck fields going to the cities, but this will all adjust itself. All cotton, or all truck, or all of any one crop has been a curse to the South and ourselves as part of the South. There has never been need for the one crop system—except that cotton was the only crop that the negro farmer could borrow money on, because the merchant wanted to sell him everything that he needed to clothe himself, to feed himself, to feed his stock, so as to compel him to part with his cotton at any price. The boll weevil changes this and the result is the diversification, not a new thing for this State, or for that matter the South. Prior to the Civil War all plantations first produced all supplies necessary to feed the owner and his slaves and his stock of every description and only such cotton as the surplus labor could handle. Cotton, a surplus crop

sold at the owner's price, and not at the dictates of the buyer. We must revert to that. Slave labor spelled compulsory co-operation; now we must co-operate from boll weevil compulsion. Don't make the error of going into one crop only, even if it is a crop immune to weevil attacks. There is nothing we cannot produce—all things necessary for support. This is a splendid cattle, hog, and sheep country. Way back yonder its chief exports were hides, salt meat and tallow. That was before cotton was known and we were then a prosperous community. It is an easy matter to produce three and sometimes four crops in one season on one piece of land. I have made a crop of early Irish potatoes, a crop of corn and cow peas, and mowed it for hay. A share cropper of mine sold from three-quarters of an acre \$65.00 worth of Irish potatoes, planted it in sorghum and made 80 gallons of syrup, half a ton of fodder, a bale of which took the ribbon at the South Carolina State Fair, and a paying crop of fall snap beans, making all told a total profit of \$250.00. We must diversify; still cultivate cotton as our surplus crop, use the intensive system and poison with calcium arsenic. This latter I look upon as the salvation of the cotton crop and especially the Sea Island. This discovery has given those sections recently infected a great advantage over those that had it heretofore. I visited the Government Experiment Station at Tulula, La., and other points in Mississippi where this poison has been successfully used and am satisfied that the weevil can be controlled and at an expense not excessive. There is nothing in the situation to change the fact that this is God's country and one that gives generously for labor intelligently applied. We are still going to raise cotton, but it will belong to those who raise it and will no longer be sold at the bidder's fiat, but the grower is going to insist on a fair margin of profit as is done in all other business. An all peanut farmer is as bad as an all cotton farmer. Raise everything that you need and we will be better off for the advent of the boll weevil. There is plenty of room here for hard-working white farmers where one can work all the year round, and where it is not necessary to house your cattle during the winter. There is a welcome awaiting all who are ready to come and try their lot with us.

BOLL WEEVIL FARMING.**By A. G. Smith.**

In the coming year of 1920 the farmers over a large part of South Carolina will be confronted with a situation through which the more westerly of the cotton States have already passed. The boll weevil which last year spread over half the counties of the State will be more or less disastrous. In some places it will be almost impossible to make cotton while in others cotton can be made only at an exceedingly high cost. The farmers must, therefore, either change the system of farming, accept a poor living, or quit the job entirely.

It makes a serious situation and there are many farmers who will suffer as a result of it. But the intelligent farmers who use their heads and do not become panic-stricken should be able to readjust their farm organization and keep their farms as profitable, if not more profitable, than they were before the advent of the boll weevil. In any kind of an economic change some people will suffer and some will profit by it, and that is just what will happen this year in South Carolina. Some farmers will lose out but others will come out a long way ahead.

The prospect of farming under boll weevil conditions, however, should cause no great worry on the part of the farmers. Other farmers and other States have passed through the same ordeal and if we will but profit by the things that they have learned and are practicing the average man should have no serious difficulty in keeping on his feet. The main thing is whether we can get hold of the proper information and put it into practice before the boll weevil gets the best of us.

Southern Alabama and Southern Georgia have sandy and sandy loam soils very similar to the lower part of South Carolina, where the boll weevil damage will be the worst, and it is to these two States that we can look with the greatest assurance of finding the methods that our farmers should follow. In fact it will pay almost any farmer to do, as many farmers have already done, to visit these regions and see for themselves how to farm profitably where the boll weevil does its worst.

I have spent a good part of two years studying farm organization in these sections for the U. S. Department of Agriculture, and while doing so, I had in mind the kind of farming that would ultimately follow in South Carolina and it is from this study that I have drawn my conclusions.

Reduced to simplicity the course for South Carolina farmers who have sandy and sandy loam soil to pursue is to cut the cotton acreage, substituting peanuts and sometimes tobacco, planting velvet beans in corn, and adding hogs extensively. Farmers who have done this are making good, but those who have failed to do this or who have tried other methods have almost invariably gone wrong. If only our farmers would keep this formula in mind and follow it out carefully the boll weevil should have no terrors for them.

Cotton should remain an important crop and one year with another it will rank high in profitability, but the danger of losing out in some years is too great to make it safe to bank too heavily on it. In 1917 and 1918 cotton paid better than peanuts, but these were years with dry summers and the boll weevil did little damage. In 1916 and 1919, however, when the seasons were wet, the weevil literally destroyed the crop. So while cotton will still rank high as a profitable crop there are too many knock-out years to make it safe to depend upon it. Good farmers, I find, are planting from a fourth to a third of their cultivated land in cotton. This usually gives from one to nine acres per mule, but any acreage beyond this borders closely on bad farming.

Good farmers also aim to plant about as much or more land in solid peanuts as they do in cotton. That is, if a man is planting a third of his land in cotton he will plant another third or more in solid peanuts. The rest of the land then goes to corn with peanuts and velvet beans interplanted and perhaps a little oats and cowpeas for home use. The peanuts planted solid, or in a field by themselves, are usually harvested and the nuts sold to oil mills where the oil is extracted and meal is made of the residue. Hogs are then kept to eat up the peanuts left in the ground after harvesting and also to eat the peanuts and velvet beans planted in corn. The hogs in this way are used as gleaners and their chief profit lies in utilizing the feed that would otherwise be largely wasted. A good basis for starting out with hogs is to keep a good brood sow that will raise ten pigs a year for each mule used. Then later, if the supply of feed warrants it, more hogs can be added. It is a losing proposition, however, for a farmer to get more hogs on hand than he has feed.

Some farmers plant only about a fourth of their land in cotton and a fourth in solid peanuts and the rest in a mixture of corn,

velvet beans and peanuts, with a small acreage of oats and cow-peas added. Such farmers go a little more heavily in the hog business. There are all sorts of combinations of crops, however, just as is found everywhere in all kinds of farming, but these give a general idea of how some of the farms are geared up. South Carolina farmers who plant a fourth or a third of their land in cotton and the same amount in solid peanuts will not seriously go wrong.

Tobacco has not been planted a great deal in Alabama and Georgia, but where it has been planted it has proved a success and paid well. From a study of the conditions and results in these two States and in South Carolina, I am convinced that our farmers, to make the most out of the business, should plant tobacco. The conditions are almost ideal for it. The soil and climate are suitable. We have the hand labor which we used in growing cotton, we have the wood for curing, and the labor in growing tobacco fits in with the labor used on other crops. Beds are made in the winter before other work begins and the plants are set out after cotton is planted, but the big advantage is that the tobacco is harvested and marketed in July and August when other farm work is well out of the way. It's an addition to the system of farming commonly practiced in Alabama and Georgia that promises to pay well, as it has already done in South Carolina.

Fodder pulling is discontinued in this boll weevil system of farming. The velvet beans make it difficult and the peanut hay from harvested peanuts make it unnecessary.

The growing and hogging off of peanuts and velvet beans helps in keeping up soil fertility and less fertilizers are used than in the old cotton system.

Dairying, except for the whole milk and cream trade, does not come in. Producing milk for a creamery that makes butter is not profitable, and creameries established for such purposes would ultimately go broke just as they have already done here in South Carolina. Too strong competition from Northern butter is the cause. Cows for farm use increase under the new system of farming, and dairies that supply the city milk trade do well.

Fattening beef cattle on velvet beans and peanut hay with perhaps a little cotton seed meal and corn added at the finish is a good business. A large number of farmers in Southern Alabama have bought feeders in Tennessee and North Carolina and

at the live stock markets, and shipped in and fed them four months and made good at it. This business will undoubtedly develop in South Carolina.

Raising beef cattle fits in where there is land fit for pasture, but ill adapted to farming. In the cut-over wood land of the coastal counties cattle raising can be made to pay well.

Mules still remain the kind of work stock most used. I believe horses and colt raising seem no more applicable to the new system than to the old. The good condition of the mules is noticed, due to the peanut hay fed to them.

I would earnestly advise more farmers to visit Southern Alabama and Georgia and see the boll weevil farming for themselves. There is no better way of getting the facts and the inspiration. If they don't know where to go just take a Coast Line train out of Savannah and start towards Montgomery, Alabama. Stop off at Quitman, Cairo, Thomasville, Donalds-ville and Bainbridge, Georgia; and Döthan, Ozark, Brundige and Troy, Alabama. Then run on up to Montgomery to see the stock yards where thousands of boll weevil cattle and hogs are handled. While at Troy it might be well to switch off to Andalusia and see the packing plant, perhaps stopping at Gant on the way over to see the start there people are making with tobacco.

There are plenty of other trips that one could take to see boll weevil farming, but this is suggested as a good one. I think it would pay any six-mule farmer to spend a couple of weeks and a hundred dollars or more in taking such a trip. He would make it all back the first year and avoid a lot of worry over the outcome of his business.

HOW TO MEET CONDITIONS.

By W. A. Stuckey, Bishopville.

"Since a change from one industrial phase to another is usually accomplished not only with a temporary diminution of income, but also incurs additional expenditures, it behooves farmers to avoid incurring all new indebtedness, and as near as possible to secure a good bank account. We are peculiarly blessed as to soil and climate, and can very profitably grow a large variety of crops. Since the famous Memphis Cotton Convention of the early sixties the cry has been reduce the cotton acreage and thus reach the great desideratum—diversified farming. The want of a

proper marketing system has been the insuperable barrier to the proper methods of farming. The boll weevil would not bring disaster to any section of the South that had the proper marketing system. It, therefore, seems to be the part of wisdom on the farmers who now have, in comparison to former years, an abundance of money, to take immediate steps in this direction.

"Colleton County, so far as my information goes, is the only county that is meeting the situation with proper judgment, where a \$200,000 corporation has been formed which guarantees to the farmers markets and a reasonable price for all products that the Clemson Extension Division Department has been recommending to the farmers. I note the meeting of yesterday of the oil mill men and bankers looking to the accomplishment of the above mentioned object. An educational drive along the line of production stops at the half-way inn of the complete system. Let us now form corporations in each county, build the proper warehouses, and thus give proper facilities."

A GREAT TOBACCO MARKET.

Williamsburg County, one of the oldest settlements in the State, has been accustomed to take things easy in days gone by, but there has been quite an awakening among the people and this is now one of the foremost counties in tobacco and in truck. The tobacco market at Kingstree last year was 5,500,000 pounds at an average price of 25 cents. Tobacco marketed in 1919 was 7,500,000 pounds at an average price of 33 cents. The average price for the State was 21 cents.

Kingstree's status in the tobacco world has been determined by the volume and quality of the leaf marketed there and a study of the comparative figures given above, coupled with the fact that next year facilities are to be greatly expanded, justifies the prediction that her primacy in the South Carolina field will soon be an acknowledged fact.

While other crops, such as cotton, corn, potatoes, velvet beans, peanuts, etc., are extensively and profitably grown, the Williamsburg farmer regards his tobacco as the great money crop. An instance is reported where a farmer received on the Kingstree market \$2,760 for the tobacco grown on three acres of ground, an average of \$920 per acre. A second received \$4,400 for the yield from five acres, or an average of \$550 per acre. Tobacco sold for 80 cents per pound on the floors of the local warehouses

in such quantities after the crop was cut by wet weather, that extremely high prices came to be accepted without comment.

Dillon County boasts of her superior farming lands and this is well borne out by some of the record prices paid recently, when different farms have been sold by the various land sales companies. One farm, that of N. A. Berry, containing about 379 acres, sold for \$265 per acre, including woodland; others, that of J. R. Thompson, for \$300 per acre, counting river swamp as of no value; the John B. Smith lands, a few tracts for \$297.50 per acre; the Henry lands, a few tracts for as much as \$300 per acre, and others, all of which brought prices, according to location, ranging from \$105 to \$250 per acre.

AIKEN COUNTY INDEPENDENT.

Aiken County farmers have taken the "bull by the horns" and the boll weevil by the wings. They have made visits to the territory in other States where great damage has been done and they are ready for the fight. The hardware dealers in Aiken are rushed with orders for fencing. The two leading hardware concerns of the county have sold more than double the amount of wire fencing sold last year. Cattle raising and living at home have been preached into the ears of the farmers at their different agricultural clubs until they have taken the lesson to heart, and there is not a planter in all Aiken County who is not fixing up his barricades against the boll weevil.

As a sample of what is being done one instance may be cited. Fred Hahn, a planter of note, has recently installed a thorough electric plant, electric milkers, churns and all, for his Claymont dairy, a few miles from town. He will plant little, if any, cotton next year and will live at home.

True, there may be a few "hard heads" who will risk another "killing" at cotton next year—you will find them in every county—but the big majority of Aiken County farmers will follow the plan of greatly reducing cotton acreage and go in for cattle, hogs and home provisions.

This year B. F. Tyler has grown twenty-one bushels of Abruzzi rye on one acre. Many more will follow his example.

H. M. Cassels of Ellenton has foresworn "King Cotton." He has most of his vast farm lands fenced in and has prepared pastures for cattle. Last year he sold several carloads of hogs and is now feeding 500 head to be marketed this winter. Large

fields of corn and velvet beans are being harvested by these hogs and turned into bacon.

The Highland Farms of H. C. Hahn are still a show place for boy clubs, girl clubs, and many of the larger farming folks. Mr. Hahn believes—and it is an old belief with him—in raising everything for a living, and this he carries out to the letter. The big one thousand-acre farm nearly supplies all the tourist hotels in Aiken and Augusta with fresh mutton and fresh daily vegetables. On his farms you will find sheep in large numbers, mule and horse colts, hogs galore, and all it takes to feed them.

GAMECOCK COUNTY READY.

Sumter is one of the latest counties to engage in tobacco growing. That county is made up largely of well to do farmers, men of intelligence who will meet the boll weevil question gamely and properly. I had requested an article from former Governor Richard I. Manning of that county, who farms extensively in Lee and Clarendon counties, but I was forced to excuse him as Mr. Manning is the chairman of the commission to rear a memorial to our soldiers who fought in France and he has had other honors thrust upon him. However, we learn that Sumter's leaders are using every agency to impress upon the farmer the seriousness of the situation and a campaign has been started for progressive farming in other lines than cotton. The raising of live stock in larger quantities and the planting of a larger acreage in corn and grains is being advocated to rid the soil of the weevil. J. Frank Williams, County Farm Demonstration Agent, a very capable man, has this matter in charge and is exerting every effort to get the facts squarely before the farmer. The weevil has not made any great progress in the county and has only been located at isolated places, but still it is necessary to make known its ravages elsewhere and to profit by other people's experiences. The Chamber of Commerce has joined in the fight to diversify farming and is lending its best efforts to this end.

"A general resume of business conditions during the past few months has shown that the Gamecock County is one of the most progressive counties in the State," says J. B. Duffie. "Our crying need is good roads, and it is understood that the legislative delegation has framed a bill to take care of the country's roads in the event that a suitable state-wide bill fails to pass. 'Good Roads, Good Tires' seems to be the slogan and this county can

be counted upon to do its full share to co-operate with the balance of the State in effecting a suitable highway system. The fall of 1919 finds Sumter County wide-awake, progressive and prosperous."

DUPONTS ARE INTERESTED.

In Southern Carolina big things are on foot. D. C. Heyward, a former governor of the State and once a planter of rice on an extensive scale, has interested Gen. I. Coleman DuPont and others in the reclamation of abandoned rice lands on the Combahee River, in Colleton County. These gentlemen are very reticent about their project, for they wish to see it further advanced before they talk. Their idea is to make this land useful for growing garden truck. An immense dam and dike has been built, protecting a vast area of alluvial land and tremendous pumps are used to get the water out of such area as might become inundated. It is a gigantic undertaking and upon its success depends the development of other tracts and areas now going to waste, but capable of sustaining a country as populous as Belgium and now untenanted.

SPLENDID OBJECT LESSONS.

In the immediate neighborhood of Charleston are some developments that have attracted great attention. Among them is the "T" farm of E. W. Durant, near Rantowles. This was an abandoned rice plantation. John E. Pickett, editor of *The Country Gentleman*, said that Mr. Durant had "pushed the ocean back to show what could be done with cotton and corn and cattle and hogs when the tides ceased to flow over the lands."

Mr. Durant found this place a ruin. He rowed over it, actually, in a boat when he first took it, in connection with Bernard M. Baruch, for a hunting preserve. It had been a tea plantation which was abandoned because of the scarcity of labor. Within three years he has made it one of the show farms of the South. On the plantation are now 300 head of grade Herefords and 150 Duroc-Jersey pigs. Mr. Durant is also making successful experiments with the Meadee cotton, a long staple which matures early and is expected to take the place of the ill-fated sea island. This new cotton is said to command as good price as sea island, which is valued as highly as silk.

Geo. W. Williams also has a fine ranch on the Charleston and Savannah line of the Seaboard Air Line. The coming of that

railway has opened new opportunities in a large area of very fertile country.

Peter B. Bradley has for some years experimented with grade cattle and with half-Arabian horses, the sires being thoroughbred Arabians. His fields of burr clover are considered very interesting. Mr. Bradley has reclaimed many acres of old rice fields.

Between the Cooper and Black rivers, on what is virtually an island, the Tuxeberry Lumber Company has improved 3,000 acres of land, much of which has been fully cleared for cultivation. Cattle and hogs are bred on the tract. An artesian well is among the advantages of the property. Officers of the company are reported to be encouraged by their results.

"The extent and variety of vegetables grown successfully by the truck farmers have long excited the attention of farmers the country over," writes T. P. Lesesne, one of the editors of the Charleston News and Courier. "As an illustration, the Charleston section furnishes annually tens of millions of young cabbage plants which are transplanted as far away as Western Canada. The market gardeners have fully demonstrated that the lands of this immediate section are adapted for nearly every vegetable and for many fruits. During the season there are immense shipments from this section of white potatoes, sweet potatoes, cabbage, onions, beans of all kinds, peas of all kinds, cucumbers, squash, tomatoes, strawberries, cantaloupes, and so on through a long list, these Charleston products fetching the best prices in the chief marketing centers of the nation."

Another well known enterprise in Charleston County is the Mt. Holly corporation, headed by Robert L. Montague. Eight thousand acres of land have been brought up by this drainage. Two thousand acres have been cleared of stumps. It is questioned whether in all of the United States a better investment in a farm enterprise can be found—and there are tens of thousands of acres all around that are awaiting such development. Mr. Montague has a modern dairy, is a breeder of Duroc-Jerseys and next year will have a herd of Herefords. Two powerful tractors were found of greatest assistance.

Robert L. Riggs at Adanac has one of the most beautiful homes in the South. Horatio Bigelow's place, Springfields, is another that is widely known. Here he installed the great herd boar, Imperator's Orion. W. H. Mixon's Ferndale property has

demonstrated that with tile drainage there is no better land in the country for stock farms. E. H. Burton, J. H. Hertz and others have reclaimed wildernesses and have made of them farms that will compare with anything in the United States for fertility of soil.

A beautiful spot in Charleston County is Ashley Hall, once the home of Stephen Bull, who came to South Carolina in 1669 and was one of the colonial governors. He had a stately mansion which was burned some years ago. The property was a wilderness when bought in 1915 by Capt. Julius H. Janz. Now it is a beautiful estate. Captain Janz specializes in Jerseys and in Berkshires. He has installed several miles of drainage ditches.

On the Prospect farm at Meggetts, Messrs. C. B. Jenkins, J. T. Jenkins and C. B. Jenkins, Jr., have reclaimed good lands going to waste. They have 5,000 acres under fence. They are specializing in Herefords and Duroc-Jerseys.

The Rose Bank Farm on Wadmalaw Island has put in tile drainage on 500 acres of their 2,000-acre tract. This farm also is using none but the very best of Duroc-Jersey sires and sows. Charleston County stockmen will not have anything but the best of the breed for their herds.

ORANGEBURG COUNTY IS READY.

Orangeburg County is in many ways one of the great agricultural sections of the South. Last year, 1918, the cotton yield was 110,000 bales, the greatest number in any county in the cotton belt. In 1919 the number of bales was 75,000. As this great county is in the territory which will get the full attack of the boll weevil in 1919, it is pleasing to note a report by Julian S. Wolfe that the county produced in 1919, 80,000 hogs.

"Cattle raising is becoming more and more popular each year, and a number of good herds of beef cattle have been started in this immediate territory," says Mr. Wolfe.

"Some breeders of hogs in this county have herds that are attracting attention over the State. McLees and McMichael, T. L. Conner, Jr., W. W. Watson, the Harts, and several others, have Durocs that compare very favorably with the best herds in the United States, and Shuler Brothers, of the Providence section, have one of the best herds of Poland-Chinas to be found anywhere. Some of the Hampshire breeders are J. D. Cleckley

and Dr. D. D. Salley of Cope, and Mr. Way is breeding Tamworths.

"W. W. Bates, Jamison, S. C., has just returned from the middle West, where he has purchased some high class Angus cattle to add to his already classy herd of cattle. He bought a bull that is easily one of the leading herd sires in the State. Mr. Bates is going extensively into the breeding of Angus.

"Mr. A. L. Fairey, of the East Orange section, is starting a herd of Shorthorns and there are several herds of Herefords in this territory."

More sales of pure bred stock have been held in Orangeburg during the past two years than in any other county in the South, and just a day or two ago fifty pure bred Berkshires were sold through a consignment sale staged by the South Carolina Berkshire Breeders' Association.

And that's Orangeburg's challenge to the boll weevil. The great cotton county is a great "all round" farming county.

TEMPTATION OF HIGH PRICES.

Lancaster County farmers were phenomenally successful this year. I use the word properly, for the phenomenon was that while they did not make a full crop of cotton, they got more money. The reason was that cotton buyers at Lancaster, Kershaw and Heath Springs paid from $2\frac{1}{2}$ to 3 cents a pound premium on the cotton. This beats a bumper crop every time. In the town of Lancaster \$100,000 in cash was paid for cotton in one day.

The farmers are out of debt and have money to spend and are buying more land, automobiles and other luxuries and depositing their surplus in the banks.

As an index of the financial condition of the county the six banks in the county report an increase of 90 per cent. in deposits over this time a year ago. The merchants are doing more business than ever before, and every line of industry is at the height of prosperity.

A NEW CORN BELT.

The South has had and has proclaimed her monopoly of cotton, but the entire South can produce any crop, except citrate fruits, that any other temperate country can grow, and the finest oranges are grown in a Southern State. In corn the South has made remarkable development. In 1900 the average yield per

acre of corn in Georgia, Florida and South Carolina was less than ten bushels to the acre planted. In 1918 the American acreage in corn production was 26.4 bushels per acre, while the Southern States beat that average, and the average for the South was around 20 bushels. South Carolina's average was 19 bushels. The farmers in South Carolina have not been accustomed to giving their best lands to corn, and the average in this State is lower than it could be made.

ONE RECORD NEVER LOWERED.

The Commissioner has never believed that the agriculture of a State is truly illustrated by enormous yields in contests, but this State has taken prizes with such a regularity that we must believe that there is something in the prize winnings. Jerry Moore's feat of 228.75 bushels of corn per acre was the cause of the greatest amount of favorable publicity that the State ever received. When his record was lowered two years later, not much attention was given to the latter fact—for a South Carolina boy had broken the world's record. There is one world's record that has never been lowered, and that is the production of Captain Z. J. Drake of Marlboro of 256 $\frac{3}{4}$ bushels of corn on one acre.

BOYS' CORN AND PIG CLUBS.

The boys' corn and pig clubs in this State are flourishing under the earnest direction of the State manager, L. L. Baker, of Bishopville. This is another forward work started by the State Department in 1912. The Commissioner learns that this branch of service has grown to such proportions that Mr. Baker may be given a full time assistant next year. Nothing, no one thing, has done the State more good than starting the boys to compete in corn growing and live stock raising. Mr. Baker has proved to be the ideal man for the place. What I say of the boys' clubs, I intend, of course, for the girls' domestic science clubs, only much more so. I believe we will have better cooks in the next generation, and without good cooks there is no use to preach "Back to the Farm."

THE NEGRO FARMER.

There has been no migration of negroes to the North this year. Estimates of the emigration of 1917 have reached as high as 400,000. Some of these are back at home, well satisfied to get back. They found that big wages did not compensate them fully for leaving a friendly climate. The Utopia that had been represented to them failed to materialize.

The intelligent white people of the South have really grieved over the treatment of the Southern negro in the great centers of population in the North and West. Lynchings in the South are due mainly to crime against women. If there has been a lynching in South Carolina in 1919 it has escaped my attention. I believe there was one in 1918. If there is anything for which we have to be thankful—that is one of the greatest blessings upon our State.

People in the North have no idea how deep an impression the East St. Louis riots made on the Southern negro. The killing of negroes in East St. Louis was due to objection to negro labor. This is what appalled the Southern darkey. He had been filled with stories by the labor agents of the admiration in which he was held by the Northerner and how well he would be received. The slaughter of blacks in the Illinois city, in the State of Abraham Lincoln, and the fury of hate manifested by those concerned will not be forgotten for many years.

Any person who talks Northern opportunity to a negro in the South, no matter how ignorant the negro may be, is sure to have East St. Louis mentioned, for there hasn't been an episode in the affairs of the negro population since the civil war that has made more impression on them than that tragedy.

In 1918 there have been clashes between the races in this country, but none in South Carolina, except a melee in the City of Charleston in June which was participated in by sailors and negroes, and not by the citizens of Charleston, according to common report.

What a striking contrast this is to the horrifying results of the outbreaks in Washington, our nation's capital, and Chicago. The newspaper accounts all related to have been ultra conservative,

and we have been told that hundreds of black people were slain, because they were hated on account of their competition as laborers.

When the negro soldiers returned to the State, there were wild rumors that they would assert themselves against the peace and dignity of the State, but the white people did not take this with seriousness.

The two races in South Carolina are living side by side in harmony and in understanding. The negro laborer is making more money than he ever did in the North, he is saving it and buying his home and making his home attractive. I have never been one that wished to keep the negro in the South if he wished to go, but I do not think we should let him go without warning him of the false lights on the shores, of the dangers that he may run into when he leaves the people by whom he is understood. He is not hated in the South. He is tolerated and indulged. But when he goes away from home and becomes a competitor for labor then indeed is he hated. And if a time of national stagnation ever comes, I shudder to think what would be the fate of the negroes in the North.

GOOD ADVICE TO NEGROES—AND WHITES.

The white people of the State must realize that the negroes are thinking, and that they are ambitious. The negroes are being given good advice by some of their leaders. I am herewith quoting from an article in C. Green Garrett's paper, *The Light*, the author being John D. Wray, "farm makers' club agent of the A. and T. College, Greensboro, N. C.":

"I am of the opinion that it is very necessary that we should call the farmers' attention to a very serious situation which he must face sooner or later.

"There is grave danger of his getting drunken with the great prosperity now being realized on the farm. If so, he would most likely overlook the fundamental principles that underlie successful farming. Whoever dreamed of such marvelous prosperity on the farm? Cotton at forty cents per pound, tobacco eighty and ninety cents and even one dollar per pound. What will naturally be the inclination of most farmers? To go their length in the cultivation of cotton and tobacco, and to grow these crops at the expense of food crops. What does that mean? A great loss. But I do not mean to discourage the cultivation of cotton

or tobacco, but I do mean to say that however successful either may be grown, the greatest profit cannot be realized from a farmer growing money crops at the expense of food.

"In order to reap the greatest possible benefit from this great wave of agricultural prosperity now sweeping over our land I would recommend the adoption of the following:

"First, let every farmer resolve that he will not buy a single thing that he can raise on his farm. Second, let each one also resolve that he will not buy anything for which he cannot pay cash. Third, let them resolve to buy only through co-operative associations. If these principles are adopted the farmers are unquestionably safe.

"Now, in the first place, farmers can produce their food a great deal cheaper than they can buy it at present prices. Second, they can save from fifty to seventy-five per cent. by paying cash. Third, the best cash prices are only possible through co-operative organization.

"The trouble is this, whatever the farmer buys on time now and during this great period of prosperity, he must pay the high price of the present for same at some time in the future, regardless of what may happen. Well, suppose cotton should drop from forty cents to twelve and fifteen cents again and tobacco from ninety cents and one dollar to twenty-five and thirty cents. What would become of the poor fellow who has to pay for groceries, fertilizer and other supplies purchased at the time of these high prices with money obtained at the latter price? In my opinion, he would fare about like a man on a train in a head-on collision, or a fellow who had got caught in the path of a great cyclone.

"I am not trying to alarm, but warn. I am not a pessimist, but an optimist. But at the same time I realize that this 'awful day' will surely come, and I wonder who will be able to stand. The man who is caught in the tangle of debts made during these prosperous times and forced to pay under such unfavorable circumstances will do well to escape total ruin. So let the farmer make hay while the sun shines, for the clouds may now be seen gathering on the distant horizon. Let him strike while the iron is hot, for it may never be at red any more.

"The philosophy of my whole theme is this: if this great wave of prosperity should continue, the above is the most economical course to take. If the crash should come by the drop in prices the farmer would be unquestionably safe. Then let our motto be, 'Safety First.' It is all right to buy automobiles after you have purchased and equipped a good farm and home. You had better not mortgage the land paid for to buy more during these uncertain times. Better be careful about loading up with heavy financial responsibilities unless you are sure to see your way clearly. Figure closely, cautiously, and act with great discretion. In other words, be sure you are safe and then go ahead.

"The farmer who is able to make a safe landing under such conditions will be safe for all time to come. But the fellow who wrecks his ships on this great sea of prosperity will hardly be able to redeem his boat or even himself. If things are bought under the influence of the present dollar which is worth about 33 1-3 cents, what will happen to the fellow who might have to pay that debt when it will be worth 100 cents? The bottom in most cases will drop out."

WEIGHTS AND MEASURES.

The Commissioner is particularly proud of the progress that has been made during his brief administration in the matter of regulating weights and measures within the State. As an Inspector of the Department, engaged upon other duties, I had found in recent years quite a lot of complaint over the State because of the irregularities of weighing machines. I determined to make an effort to have the regulations made effective and sent Inspector Holland to visit other States that had laws and regulations that were producing results.

Subsequently I authorized new regulations and requirements for this State, issued a bulletin, No. 31, giving the law on the subject, and encouraged the inspectors to get results. Their report, which speaks for itself, is very gratifying. I feel that in taking the initiative in this regulatory work which has just begun and will be extended, I have done a great deal for the improvement of conditions in this State.

In issuing Bulletin No. 31, copies of which may be had upon application to this office, I made the following announcement:

"At the session of the General Assembly of 1913 the Act which is printed in this pamphlet providing for uniform standard of weights and measures in the State of South Carolina was placed on the Statute Books of the State. Amendments from time to time are also included. The duty of enforcing these laws has been placed on the Department of Agriculture, Commerce and Industries and notice is hereby given that this Department is giving close attention to the enforcement of these laws. Inspectors specifically charged with this work are traveling throughout the State giving their entire time to the inspection of scales and measures. Inspectors of the Feed Division are also authorized to assist in this work. Probably the active enforcement of the weights and measures laws mean more to the citizens of the State just now during the extremely high prices of all commodities than any other duties imposed upon this Department. It is earnestly hoped that the Department will continue to have the hearty co-operation of the public that has always been given.

"Additional rules and regulations, as authorized by law, will be promulgated as required by circumstances."

I call particular attention to the statistical report presented by Inspectors Gibert and Kennerly, the latter having succeeded Inspector Holland, retired. This shows that nearly 7,000 scales and weights were inspected and that a great many of them were adjusted and corrected.

Whenever an inspector found scales to be incorrect, the appliance was sealed and the following notice served upon the owner:

"This is to certify, That has been tested and found to be incorrect, and its use is hereby forbidden until it has been repaired by a competent scale repairer and made to conform to the authorized standard.

"When properly repaired, this scale will be released from condemnation upon application to the Commissioner of Agriculture, Commerce and Industries, Columbia, S. C., stating necessary repairs have been made by a competent scale repairer.

"If a scale be twice condemned, it will not be allowed for use in trade again."

Weights and Measure Amendment to Sec. 4, page 6.
(Amendment of 1918.)

That it shall be the duty of the Commissioner of Agriculture, Commerce and Industries, or his duly authorized representatives, when any scale or scales used in trade are found to be incorrect within the meaning of this Act, by written order to forbid the further use in trade of such scale or measure or scales or measures until completely adjusted and "sealed" and have been so stamped, when such written order may be annulled. If the scale or scales are found to be fraudulent or impossible of adjustment, then such scale shall be seized and confiscated by the Commissioner or his authorized agent, acting under his instructions.

Approved the 14th day of February, 1918.

Sec. 5. That any person or persons violating this Act or any part thereof shall be deemed guilty of misdemeanor, and, upon conviction, shall be fined not less than \$5.00, nor more than \$50.00 for each offense.

RULES AND REGULATIONS.

I have promulgated during the year the following rules and regulations governing the duties of Inspectors of Weights and Measures:

1. For the purpose of uniformity in inspection, the following classifications are made and defined:

(a) *Sealed*—A weighing or measuring device that is correct or within the tolerance allowed.

(b) *Adjusted*—A weighing or measuring device that upon testing is found inaccurate and that has an adjusting or compensating device by means of which the inspector is enabled and has corrected the inaccuracy. (It shall not be the duty of the inspector to make repairs.)

(c) *Condemned*—A weighing or measuring device that is inaccurate but in the opinion of the inspector is capable of satisfactory repair and whose use has been prohibited until such time as proper repairs have been made.

(d) *Confiscated*—A weighing or measuring device that upon testing is found inaccurate and in the opinion of the inspector is incapable of proper repair and has been seized by the inspector.

2. All measuring or weighing devices classed as "Sealed" shall have attached thereto a seal properly worded, dated and signed by the inspector, showing that the device has been inspected and found to be accurate.

All measuring or weighing devices classed as "Condemned" shall have attached thereto a seal properly worded, dated and signed by the inspector showing that the device has been found inaccurate and its use forbidden until proper repairs have been made and a release obtained.

3. A weighing or measuring device condemned by an inspector may be used after proper repairs have been made, provided the owner shall make application to the Commissioner of Agriculture, Commerce and Industries stating that proper repairs have been made by a competent repairman.

4. A weighing or measuring device may be seized and confiscated if the owner thereof shall not have had proper repairs made or cannot show proof that an effort has been made to repair the device within thirty (30) days after it has been condemned.

5. *Tolerances Allowed*—The following tolerance will be allowed on weighing and measuring devices:

Scales having capacity of one (1) ton and over used for weighing coal—not to exceed thirty (30) pounds per ton.

Scales having capacity of one (1) ton and over used for weighing cotton seed and hulls—not to exceed twenty (20) pounds per ton.

Scales used for weighing cotton—no tolerance allowed.

Scales for weighing food stuffs—no tolerance allowed.

Automatic pumps used for selling liquids—seven (7) cubic inches in five (5) gallons.

Dry Measures—

Capacity.	Tolerance.	
1 Bushel	25	cu. in.
$\frac{1}{2}$ Bushel	15	cu. in.
1 Peck	8	cu. in.
$\frac{1}{2}$ Peck	5	cu. in.
2 Quarts	2.5	cu. in.
1 Quart	1.5	cu. in.
1 Pint	1.0	cu. in.
$\frac{1}{2}$ Pint .....	.5	cu. in.
$\frac{1}{4}$ Pint .....	.25	cu. in.

Liquid Measures—

Capacity.	Tolerance.	
10 Gallons	9	cu. in.
5 Gallons	5.4	cu. in.
4 Gallons	3.6	cu. in.
3 Gallons	3.6	cu. in.
2 Gallons	1.8	cu. in.
1 Gallon .....	.9	cu. in.
$\frac{1}{2}$ Gallon .....	.68	cu. in.
1 Quart .....	.45	cu. in.
1 Pint .....	.34	cu. in.
$\frac{1}{2}$ Pint .....	.22	cu. in.
1 Gill .....	.22	cu. in.

Weights—Tolerance allowed not to be sufficient to cause an error equal to smallest graduation on beam upon which weight is used.

Yard Stick—Not over $\frac{1}{8}$ inch.

6. It shall be the duty of the Inspectors of Weights and Measures to weigh branded packages put up for sale to determine the true weight of such article. If said articles do not conform to the amounts specified on them, they shall be condemned and their sale prohibited until said articles are made to conform with the amounts specified on the containers.

RECOMMENDATIONS.

After a year of work in the field with the laws that we had, the inspectors have made the following recommendations which I approve and ask the General Assembly to consider:

It is recommended that the provisions of Section 2468 of the Civil Code of Laws of South Carolina, 1912, Volume I, relating to purchase of standard weights and measures by counties, be enforced.

That the penalty for violation of the weights and measures laws be made heavier than they are at present.

That authority be given inspectors to hold up any delivery vehicle of whatever kind and require drivers to proceed to any scale the inspector may designate for the purpose of ascertaining the correct weight of the load upon said vehicle.

That a law be passed requiring all bread exposed or offered for sale in this State be wrapped and the net weight of the bread be plainly marked on the wrapper.

That the use of the type of scale commonly known as the "family" scale be prohibited for use in trade in this State.

That a law be passed providing the Commissioner or his agents with authority to prosecute in cases where short weights or measures are found.

NEW LEGISLATION.

To carry out the above needed changes in the law, I offer for your consideration the following bills, which have been prepared with the advice of the Attorney General's office:

AMENDMENTS TO PRESENT WEIGHTS AND MEASURES ACT.

"The Commissioner of Agriculture, Commerce and Industries shall as often as he may deem necessary see that all weights, measures and measuring devices in use are correct. He may in

person and through inspectors may for the purpose above mentioned, and in the general performance of his official duties, enter and go into or upon, and without formal warrant, any stand, place, building, or premises, or stop any vendor, peddler, junk dealer, coal wagon, ice wagon, delivery wagon, or any person whatsoever, and require him, if necessary, to proceed to some place which the Commissioner or his agents may specify, for the purpose of making the proper tests. Whenever the Commissioner or agents find a violation of the statutes relating to weights and measures, he shall cause the violator to be prosecuted.

"The Commissioner of Agriculture and his inspectors are authorized and empowered to seize for use as evidence without formal warrant, any false or unsealed weight measure, or weighing or measuring device or package or amount of commodity found to be used, retained, or offered or exposed for sale or sold in violation of law.

"Any person or persons who shall hinder or obstruct in any way the Commissioner or inspectors in the performance of official duties shall be guilty of a misdemeanor, and, upon conviction thereof in any court of competent jurisdiction, shall be punished by a fine of not less than ten dollars (\$10.00) nor more than one hundred dollars (\$100.00) or by imprisonment in the county jail for not more than days or by both such fine and imprisonment."

"Whoever, himself or by his servants, or agents or as the servant or agent of another person, gives or attempts to give false or insufficient weight or measure shall be guilty of a misdemeanor and upon conviction thereof in any court of competent jurisdiction, shall be punished by a fine of not less than ten dollars (\$10.00) nor more than one hundred dollars (\$100.00) or imprisonment in the county jail for not more than days or by both such fine and imprisonment, and each and every article so sold shall constitute a separate offense."

Report of Inspectors of Weights and Measures.

Hon. B. Harris, Commissioner of Agriculture, Commerce and Industries, Columbia, S. C.

Sir: We, the Inspectors of Weights and Measures, beg to submit this, the first annual report of the Bureau of Weights and Measures, for the period ending December 31, 1919.

Immediately after the announcement of your intention to establish this bureau and determination that the laws on weights and measures be enforced in this State, the instruction of an inspector and the securing of the necessary equipment for the work was begun.

The laws of Massachusetts and New York appearing to conform more nearly to the requirements of the U. S. Bureau of Standards, and other authorities on this subject, a careful study of these laws was made and an inspector was sent to New York City to observe the methods of inspection in use there. The New York City inspectors took a helpful and courteous interest in the inspector and the information supplied by them has been of great value in the work in this State.

EQUIPMENT.

Some difficulty was experienced in securing the necessary field and office equipment for the inspectors. Orders were placed as soon as the necessary equipment was decided upon, but conditions brought about by the war caused a lengthy delay in the filling of these orders and it was not until June, 1919, that the first sealer's outfit was received. All orders, however, have now been filled and the bureau has at present the following equipment:

Two portable sealer's outfits.

One ton of test weights—50 lb. units.

Two standard five-gallon test cans.

One standard yard stick and steel tape.

Standard dry measures, one pint to one bushel.

Standard liquid measures, one gill to one gallon.

Standard balance, sensitive to $1/200$ part of one ounce.

All the equipment listed above has been sent to the U. S. Bureau of Standards and standardized. This Department has on file certificates as to the correctness of the above equipment.

INSPECTION OF STORE SCALES.

The first work taken up was the inspection of scales used by merchants. Three classifications of scales were made, namely: Sealed, Fair and Condemned. The definitions of these classifications are as follows:

Sealed—A scale that upon inspection was found accurate and in good condition. Scales of this class were sealed with a red seal.

Fair—A scale that upon inspection was found operating against the merchant or though accurate had some parts broken or was in a dirty condition. Scales of this class, though passed by the inspector, were not sealed.

Condemned—A scale found inaccurate and operating against the public. The use of scales of this class was prohibited until necessary repairs had been made and a release obtained from the Commissioner of Agriculture, Commerce and Industries. A green seal was placed upon a condemned scale.

COAL AND ICE.

Considerable time has been given by the inspectors to investigations of weights given by ice and coal dealers. Shortages of ice were found in the cities of Columbia, Greenville and Spartanburg and convictions were secured against drivers of ice wagons in these cities. Investigations have been made in many smaller towns and some cases of shortage found, but local conditions did not seem to justify prosecution. In these cases warnings to dealers were issued and in the future prosecutions will be made whenever shortages are found.

In investigations of weights of coal given by dealers only two cases of shortage were detected and these were due to weighing upon inaccurate scales. The scales in these cases were condemned for repairs.

COTTON SCALES.

Close attention and inspection has been given by the inspectors to the scales upon which cotton is weighed for it was realized that the accuracy of no class of scales was more important to the people of South Carolina than the scales upon which the principal money crop of the State is marketed. Some cases of inexcusable inaccuracy have been found, the most notable one being an error of 17 pounds on one scale. The seller lost 17 pounds on every bale of cotton sold over this scale. This case is now in the hands of a magistrate for prosecution. A total of 15 cotton scales has been condemned. This number includes scales upon which the bulk of cotton sold in certain territories was marketed. The inspection of cotton scales has not as yet been completed. Slight inaccuracies were found in a great number of cotton scales

inspected, but the inspectors were able to correct these scales by slight adjustments. It was noted that there is a marked degree of neglect shown in the care of cotton scales, but it is expected that the inspection will have a noticeable effect upon this and that in future greater care will be taken of the scales thus insuring greater accuracy.

LIQUID AND DRY MEASURE.

Most of the liquid measures in use in the State have been found to be accurate. The principal articles of merchandise sold by this method are kerosene, gasoline, vinegar, molasses and lubricating oils. Merchants handling these articles have measures made by reputable manufacturers and only a few inaccuracies have been found.

Dry measure as a standard is rapidly going out of use and it is thought it should be done away with wherever possible. In the marketing of food greater accuracy can be insured by the use of weight than measure. Examples of this kind of merchandise are potatoes, apples, beans, etc.

PACKAGE GOODS.

Investigations of weights of package goods disclosed some inaccuracies. One manufacturer's packages of flour marked 24 pounds were found to be $1\frac{1}{4}$ pounds short on each package. This investigation covered fifteen towns.

This shortage is equal to the amount of flour consumed by the average family at one meal. It amounted to the loss of a 24 pound sack out of each $2\frac{4}{10}$ barrels purchased and meant a gain of $12\frac{1}{2}$ barrels on a day's output of a 300-barrel capacity mill. The manufacturer of this brand of flour, upon being notified, at once employed means to correct this inaccuracy and this flour now weighs 24 pounds net to each sack.

CONCLUSION.

In conclusion the inspectors desire to state that they have found the public heartily in sympathy with the work of the Department. Merchants and dealers of all kinds have welcomed the inspection and in very few instances have the inspectors found evidence of intentional dishonesty. Although few cases of intent to defraud have been found a large number of merchants had their scales condemned owing to the fact that they had allowed them to become inaccurate through lack of care and attention.

By prohibiting the use of these scales thousands of dollars have been saved to the public. In addition to protecting the public the work of the inspectors has resulted in a great saving to the merchants, for hundreds of scales operating against dealers have been corrected and adjusted.

The inspectors have tried at all times to be of as much assistance as possible, and where time and facilities permitted have adjusted and corrected all kinds of weighing devices and imparted such information as available concerning the care of these devices.

Respectfully submitted,

A. H. GIBERT, JR.,

H. S. KENNERLY,

Inspectors, Weights and Measures.

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
ABBEVILLE COUNTY.												
Donalds	1	2	7	4	.....	.....	1	.....	.....	.....	.....	.....
Abbeville	6	21	57	6	.....	.....	1	.....	.....	.....	.....	.....
Lowndesville .....	.....	2	12	1	.....	.....	.....	.....	.....	.....	.....	.....
Calhoun Falls	1	2	12	1	.....	.....	.....	.....	.....	.....	.....	.....
Due West .....	.....	8	8	4	.....	.....	.....	.....	.....	.....	.....	.....
Total	8	35	93	16	.....	.....	1	1	.....	.....	.....	.....
AIKEN COUNTY.												
Aiken	28	7	12	3	.....	.....	.....	6	.....	.....	.....	.....
Salley	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ellenton	8	4	2	1	.....	.....	.....	.....	.....	.....	.....	.....
Wagener	3	5	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	40	17	23	4	.....	.....	.....	6	.....	.....	.....	.....
ANDERSON COUNTY.												
Anderson	31	36	83	12	.....	31	.....	2	.....	4	8	1
Belton	10	10	18	3	.....	1	.....	.....	.....	.....	.....	.....
Honea Path	9	8	18	6	.....	1	.....	.....	.....	.....	.....	.....
Pelzer	4	3	18	2	.....	1	.....	.....	.....	.....	.....	.....
Williamston	3	6	14	2	.....	.....	2	.....	.....	.....	.....	.....
Sandy Springs	1	4	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pendleton	1	4	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starr .....	.....	1	5	1	.....	.....	.....	.....	.....	.....	.....	.....
Iva	2	.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....
Total	61	72	185	28	.....	36	.....	2	.....	4	8	1
ALLEDALE COUNTY.												
Allendale	12	7	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fairfax	5	5	15	3	1	.....	.....	.....	.....	.....	.....	.....
Total	17	12	21	3	1	.....	.....	.....	.....	.....	.....	.....

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
BAMBERG COUNTY.												
Bamberg	4	4	9	.....	.....	.....	.....	1	.....	.....	.....	.....
Denmark	5	.....	1	1	.....	.....	.....	1	.....	.....	.....	.....
Total	9	4	10	1	.....	.....	.....	2	.....	.....	.....	.....
BARNWELL COUNTY.												
Blackville	16	12	21	.....	.....	1	.....	.....	.....	.....	.....	.....
Barnwell	17	10	15	2	.....	.....	.....	.....	.....	.....	.....	.....
Total	33	22	36	2	.....	1	.....	.....	.....	.....	.....	.....
BEAUFORT COUNTY.												
Beaufort	7	5	26	2	.....	.....	.....	.....	.....	.....	.....	.....
Port Royal .....	.....	1	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	7	6	34	2	.....	.....	.....	.....	.....	.....	.....	.....
BERKELEY COUNTY.												
Moncks Corner	7	6	4	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	7	6	4	1	.....	.....	.....	.....	.....	.....	.....	.....
CALHOUN COUNTY.												
St. Matthews	9	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	9	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
CLARENDON COUNTY.												
Manning	16	3	5	2	.....	.....	.....	1	.....	.....	.....	.....
Total	16	3	5	2	.....	.....	.....	1	.....	.....	.....	.....
CHESTER COUNTY.												
Evans	8	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chester	12	9	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	15	11	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHEROKEE COUNTY.												
Cowpens	10	9	24	2	.....	1	.....	8	.....	.....	.....	.....
Blacksburg	3	3	10	2	.....	1	.....	.....	.....	.....	.....	.....
Gaffney	17	16	50	6	1	.....	.....	.....	.....	.....	.....	.....
Total	30	28	84	10	1	2	.....	8	.....	.....	.....	.....
CHARLESTON COUNTY.												
Charleston	263	265	194	7	5	398	.....	82	.....	8	4	.....
Total	263	265	194	7	5	398	.....	82	.....	8	4	.....
CHESTERFIELD COUNTY.												
Cheraw	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chesterfield	8	12	17	2	1	.....	.....	.....	.....	.....	.....	.....
Jefferson	8	4	4	2	.....	.....	.....	.....	.....	.....	.....	.....
Pageland	12	.....	8	2	.....	.....	.....	3	.....	.....	.....	.....
Total	29	17	29	6	.....	.....	.....	8	.....	.....	.....	.....
DARLINGTON COUNTY.												
Darlington	17	6	6	3	.....	.....	.....	.....	.....	.....	.....	.....
Lamar	6	3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	23	9	10	3	.....	.....	.....	.....	.....	.....	.....	.....

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
DILLON COUNTY.												
Dillon	3	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	3	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....
DORCHESTER COUNTY.												
Summerville	19	20	25	1	.....	56	.....	11	.....	.....	.....	.....
St. George	9	9	14	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	28	29	39	1	.....	56	.....	11	.....	.....	.....	.....
EDGEFIELD COUNTY.												
Edgefield	8	14	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Johnston	18	22	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	26	36	24	.....	.....	.....	.....	.....	.....	.....	.....	.....
FLORENCE COUNTY.												
Florence	38	33	29	11	.....	.....	.....	.....	.....	.....	.....	.....
Lake City	7	7	24	2	.....	.....	.....	.....	.....	.....	.....	.....
Coward .....	.....	1	7	3	.....	.....	.....	.....	.....	.....	.....	.....
Scranton	3	2	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Timmons ville	23	14	9	1	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	71	57	77	17	.....	.....	.....	.....	.....	.....	.....	.....
FAIRFIELD COUNTY.												
Blair	3	2	1	.....	.....	2	.....	.....	.....	.....	.....	.....
Shelton	5	1	3	.....	.....	1	.....	1	.....	.....	.....	.....
Ridgeway	6	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winnsboro	4	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	18	3	8	1	.....	3	.....	1	.....	.....	.....	.....
GREENVILLE COUNTY.												
Greenville	86	59	127	9	.....	94	.....	3	.....	1	5	11
Fountain Inn	4	1	16	3	.....	.....	.....	.....	.....	.....	.....	.....
Piedmont	5	3	4	2	.....	1	.....	.....	.....	.....	.....	.....
Simpsonville	8	7	10	4	.....	.....	.....	.....	.....	.....	.....	.....
Taylor	2	3	9	2	.....	1	2	.....	.....	.....	.....	.....
Total.....	106	73	166	20	.....	96	2	3	.....	1	5	11
GREENWOOD COUNTY.												
Greenwood	15	20	60	4	.....	.....	.....	.....	.....	.....	.....	.....
Ninety-Six	5	17	33	2	.....	.....	.....	.....	.....	.....	.....	.....
Troy	3	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coronaca	1	3	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hodges .....	.....	.....	16	3	.....	.....	.....	.....	.....	.....	.....	.....
Bradley	1	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Verdery	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shoals Junction .....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Ware Shoals .....	.....	2	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	26	48	128	11	.....	.....	.....	.....	.....	.....	.....	.....
GEORGETOWN COUNTY.												
Georgetown	12	6	31	9	5	.....	.....	.....	.....	.....	.....	.....
Andrews	6	6	17	2	1	.....	.....	.....	.....	.....	.....	.....
Total.....	18	12	48	11	6	.....	.....	.....	.....	.....	.....	.....

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Rerweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
HORRY COUNTY.												
Conway	8	11	19	10								
Loris	2	7	13	1								
Aynor	2	4	14	1								
Gallivant's Ferry		1	2									
Toddville		1	3									
Bucksport	2	1										
Horry			3									
Cool Spring	1											
Total	15	25	54	12								
HAMPTON COUNTY.												
Luray	2	1	5	1	1							
Estill	4	7	12	3								
Furman		1	8									
Lena	1	2	4									
Brunson	4	3	13	3	1							
Hampton	3	3	6	1								
Varnville	7	3	8	1								
Total	21	20	56	9	2							
JASPER COUNTY.												
Hardeeville		2	11									
Tillman		1	3	1								
Ridgeland	4	2	8	1								
Total	4	5	22	2								
KERSHAW COUNTY.												
Camden	28	16	13									
Blaney	7	4	5									
Lugoff	6	5	2	1								
Westville	2		2	1								
Kershaw	13	10	8	1								
Total	56	35	30	3								
LEXINGTON COUNTY.												
Batesburg	11	12	9									
Lexington	7	4	2									
Irmo	3											
Leesville	5		2									
Swansea	6											
Total	31	16	13									
LANCASTER COUNTY.												
Lancaster	25	14	22	2								
Heath Springs	13	12	10	1				3				
Total	38	26	32	3				3				
LAURENS COUNTY.												
Gray Court	4	8	11	1								
Owings	3	6	10									
Clinton	3	12	36	6								
Cross Hill	7	6	13	2								
Waterloo	5	6	11	3								
Mountville	5	6	10									
Laurens	20	21	41	6		8						
Goldville	2											
Landford	1	2	3									
Total	51	67	135	18		8						

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
LEE COUNTY.												
Lynchburg	9	8	7									
Total.....	9	8	7									
MARION COUNTY.												
Marion	1	12	40	8								
Mullins	7	7	18	5								
Nichols			7	2								
Total.....	8	19	65	15								
MCCORMICK COUNTY.												
Parksville		2	7									
Plum Branch	6	4	9	2								
McCormick	6	7	19	2								
Modoc	2	2	2									
Clarks Hill	1											
Mt. Carmel		3										
Willington	1	3	6									
Total.....	16	21	43	4								
MARLBORO COUNTY.												
Bennettsville	25	20	15	3								
Clio	10	11	16	1		15						
Total.....	35	31	31	4		15						
NEWBERRY COUNTY.												
Whitmire	1	10	11	2								
Prosperity	3	8	24	1								
Little Mountain	2			1								
Chappells	4	5	13	1								
Silverstreet	4	5	8									
Kinards	3											
Pomaria	1	2	16	3								
Newberry	6	18	76	7								
Helena		1	3									
Total.....	24	49	151	15								
OCONEE COUNTY.												
Walhalla	4	6	15	1								
Newry		2	3									
Seneca	1	8	26	3								
Clemson College	2	2										
Westminster		8	23	1								
West Union		4	8									
Total.....	7	30	75	5								
ORANGEBURG COUNTY.												
North	4	3	1	2								
Woodford	1											
Orangenburg	6	4	4	1								
Holly Hill	5	3	2									
Branchville	9	5	10			16						
Total.....	25	15	17	3		16						

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Rerweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
PICKENS COUNTY.												
Liberty	2	4	18	4	.....	2	.....	.....	.....	.....	.....	.....
Central .....	.....	7	12	1	.....	.....	.....	.....	.....	.....	.....	.....
Calhoun .....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Norris .....	.....	3	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Catechee	1	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Easley .....	.....	5	23	7	.....	.....	.....	.....	.....	.....	.....	.....
Pickens	2	7	17	3	.....	.....	.....	.....	.....	.....	.....	.....
Total	5	27	81	15	.....	2	.....	.....	.....	.....	.....	.....
RICHLAND COUNTY.												
Columbia	149	43	95	25	.....	17	3	2	.....	.....	.....	5
Pontiac	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Hopkins	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gadsden	4	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blythewood	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Brookland	10	12	24	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	170	57	123	27	.....	17	3	2	.....	.....	.....	5
SALUDA COUNTY.												
Ridge Spring	13	6	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ward	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saluda	14	6	17	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	29	12	29	1	.....	.....	.....	.....	.....	.....	.....	.....
SPARTANBURG COUNTY.												
Woodruff	8	11	20	3	.....	.....	.....	1	.....	.....	.....	.....
Enoree	6	5	6	5	.....	.....	.....	.....	.....	.....	.....	.....
Duncan	1	1	8	2	.....	1	1	.....	.....	.....	.....	.....
Greer	19	8	31	3	.....	.....	1	.....	.....	.....	.....	.....
Spartanburg	72	42	79	4	.....	59	9	9	.....	2	3	3
Pacolet	5	2	19	4	.....	1	.....	.....	.....	.....	.....	.....
Chesnee	15	11	19	1	.....	2	.....	1	.....	.....	.....	.....
Inman	18	13	21	1	.....	2	1	.....	.....	.....	.....	.....
Gramlin	4	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Campobello	4	5	12	2	.....	2	.....	.....	.....	.....	.....	.....
Landrum	3	9	18	1	.....	.....	2	.....	.....	.....	.....	.....
Wellford	4	7	9	1	.....	1	.....	.....	.....	.....	.....	.....
Fairforest	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tucapau .....	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	162	115	250	27	.....	69	5	11	.....	2	3	3
SUMTER COUNTY.												
Mayesville	13	7	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sumter	4	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	17	7	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
UNION COUNTY.												
Santuc	4	1	2	1	1	1	.....	.....	.....	.....	.....	.....
Jonesville	6	2	20	2	.....	2	.....	.....	.....	.....	.....	.....
Carlisle	9	6	5	1	.....	2	.....	.....	.....	.....	.....	.....
Union	33	13	24	1	.....	20	.....	.....	.....	.....	.....	.....
Total	62	22	51	5	1	25	.....	.....	.....	.....	.....	.....

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repairs	Confiscated	Correct	Adjusted	Condemned For Repairs	Confiscated	Correct	Over	Under
WILLIAMSBURG COUNTY.												
Kingstree	7	3	12	8	.....	.....	.....	.....	.....	.....	.....	.....
Lanes	2	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cades .....	.....	2	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	9	7	24	8	.....	.....	.....	.....	.....	.....	.....	.....
YORK COUNTY.												
York	18	13	26	2	3	.....	.....	.....	.....	.....	.....	.....
Fort Mill	12	.....	4	1	.....	19	.....	2	.....	.....	.....	.....
Total.....	30	13	30	3	3	19	.....	2	.....	.....	.....	.....

REPORT COVERING INSPECTIONS MADE IN THE VARIOUS TOWNS AND CITIES
THROUGHOUT THE STATE OF SOUTH CAROLINA FOR THE PERIOD ENDING
DECEMBER 31, 1919.—Continued.

RECAPITULATION.

NAME OF COUNTY AND TOWN	Scales					Weights				Ice Reweighing		
	Correct	Adjusted	Fair	Condemned For Repair	Confiscated	Correct	Adjusted	Condemned For Repair	Confiscated	Correct	Over	Under
Abbeville	8	35	93	16	.....	.....	1	1	.....	.....	.....	.....
Aiken	40	17	23	4	.....	.....	.....	6	.....	.....	.....	.....
Allendale	17	12	21	3	1	.....	.....	.....	.....	.....	.....	.....
Anderson	61	72	185	28	.....	36	.....	2	.....	4	3	1
Bamberg	9	4	10	1	.....	.....	.....	.....	.....	.....	.....	.....
Barnwell	33	22	36	2	.....	1	.....	.....	.....	.....	.....	.....
Beaufort	7	6	34	2	.....	.....	.....	.....	.....	.....	.....	.....
Berkeley	7	6	4	1	.....	.....	.....	.....	.....	.....	.....	.....
Calhoun	9	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charleston	263	265	194	7	5	396	.....	82	.....	8	4	.....
Cherokee	30	28	84	10	1	2	.....	8	.....	.....	.....	.....
Chester	15	11	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chesterfield	29	17	29	6	.....	.....	.....	3	.....	.....	.....	.....
Clarendon	16	3	5	2	.....	.....	.....	1	.....	.....	.....	.....
Darlington	23	9	10	3	.....	.....	.....	1	.....	.....	.....	.....
Dillon	3	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Dorchester	23	29	39	1	.....	56	.....	11	.....	.....	.....	.....
Edgefield	26	36	24	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fairfield	18	3	8	1	.....	3	.....	1	.....	.....	.....	.....
Florence	71	57	77	17	.....	.....	.....	.....	.....	.....	.....	.....
Georgetown	18	12	48	11	6	.....	.....	.....	.....	.....	.....	.....
Greenville	105	73	166	20	.....	96	2	3	.....	1	5	11
Greenwood	26	48	128	11	.....	.....	.....	.....	.....	.....	.....	.....
Hampton	21	20	56	9	2	.....	.....	.....	.....	.....	.....	.....
Horry	15	25	54	12	.....	.....	.....	.....	.....	.....	.....	.....
Jasper	4	5	22	2	.....	.....	.....	.....	.....	.....	.....	.....
Kershaw	56	35	30	3	.....	.....	.....	.....	.....	.....	.....	.....
Lancaster	38	26	32	3	.....	.....	.....	3	.....	.....	.....	.....
Laurens	51	67	135	18	.....	8	.....	.....	.....	.....	.....	.....
Lee	9	8	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lexington	31	16	13	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marion	8	19	65	15	.....	.....	.....	.....	.....	.....	.....	.....
Marlboro	35	31	31	4	.....	15	.....	.....	.....	.....	.....	.....
McCormick	16	21	43	4	.....	.....	.....	.....	.....	.....	.....	.....
Newberry	24	49	151	15	.....	.....	.....	.....	.....	.....	.....	.....
Oconee	7	30	75	5	.....	.....	.....	.....	.....	.....	.....	.....
Orangeburg	25	15	17	3	.....	16	.....	.....	.....	.....	.....	.....
Pickens	5	27	81	15	.....	2	.....	.....	.....	.....	.....	.....
Richland	170	57	123	27	.....	17	3	2	.....	.....	.....	5
Saluda	29	12	29	1	.....	.....	.....	.....	.....	.....	.....	.....
Spartanburg	162	115	250	27	.....	60	5	11	.....	2	3	3
Sumter	17	7	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union	52	22	51	5	1	25	.....	.....	.....	.....	.....	.....
Williamsburg	9	7	24	8	.....	.....	.....	.....	.....	.....	.....	.....
York	30	13	30	3	3	19	.....	2	.....	.....	.....	.....
Total	1,676	1,395	2,555	326	19	763	11	138	.....	15	15	20

REPORT OF H. W. McCREIGHT, CHIEF CLERK, DEPARTMENT AGRICULTURE, COMMERCE AND INDUSTRIES, ON TWELFTH ANNUAL CONVENTION OF WEIGHTS AND MEASURES OF THE UNITED STATES, WASHINGTON, D. C., MAY 21 TO 24, INCLUSIVE, 1919.

Hon. B. Harris, Commissioner.

Dear Sir: As directed by you, I attended the foregoing mentioned Weights and Measures Convention and beg to submit the following report.

The program was prepared by Mr. L. A. Fischer, Chief, Division of Weights and Measures of the Bureau of Standards, who presided at all sessions of the convention. Thirty-two delegates were present representing twenty-four States, several States having several delegates, and sixty-nine city and county sealers. Also a number of manufacturers of scales, measures and liquid pumps were represented, making a total of about a hundred and twenty persons, including several officers of the Bureau of Standards.

State delegates reported laws, progress and conditions in their respective States, being allowed a maximum of five minutes each. I am pleased to report that South Carolina is ahead of many States represented and is behind only a few, namely: New York, Massachusetts, New Jersey, Pennsylvania and New Hampshire. The last mentioned have separate departments of weights and measures under a commissioner and his assistants, thus being able to devote their time exclusively to this work and naturally are able to go deeper into the study and performance of the duties. It is conceded that testing scales, measures and liquid pumps for accuracy is merely the A B Cs of this work, though certainly the most important and most valuable to the masses. Especially during the present period of high prices of all necessary commodities, the matter of accurate weights and measures should receive attention.

Commissioner H. A. Webster of New Hampshire stated that the laws of his State prohibit the sale of wood in any manner other than by the cord or fraction thereof, and that notices to this effect are posted throughout the country districts and otherwise advertised. I believe that other States should enact similar laws, as many venders of wood place same at all sorts of angles

with the view of deception as to quantity and sell at so much per load.

A paper was read on "Fraud in the Sale of Ice" which was followed by an interesting discussion. It appears that ice is rarely weighed, but is cut by estimate. However, experienced, honest ice cutters can usually cut a piece of ice within a pound or so of the desired quantity and the purchaser should average the correct weight. It is not practicable to sell ice accurately by weight as other commodities are weighed and sold, as a small additional piece would not be desired by the purchaser, nor would the ice man care to cut off a small overweight. However, when short weights are regularly given, or the shortage is considerable, fraud is evident and should be prosecuted.

One of the interesting and important subjects stressed was that of the unnecessarily large number of sizes of containers for vegetables, fruits and berries. Mr. F. P. Downing, of the Bureau of Markets, addressed the convention and exhibited many sizes of these containers from a quart to a bushel and larger. Unless the basket or crate, supposed to contain a bushel, but often a quart or more short, can be compared with an accurate container, the difference is not noticeable, and frequently one is taller and the other wider which prevents a comparison calling attention to errors in sizes. The Bureau of Standards recommends reducing the twenty or more sizes to five or six, these to conform to certain measurements as to height and width of top and bottom so that any one with a rule may verify the accuracy. Resolutions were adopted that as far as possible the use of dry measures be discontinued and that the commodities be sold by weight. Also that flour and other commodities not now sold by the hundred weight or multiple thereof but by 196 pounds, etc., as at present, be sold on a basis of 100 pounds. The convention was unanimously in favor of standardized weights and measures, using those adopted by the Bureau of Standards as a basis.

Liquid Pumps.—Investigations have shown that a large proportion of inaccuracies in liquid pumps is caused by faulty installation. Most pumps are accurate when shipped by the manufacturer, but due to carelessness or ignorance in installing, the various pipes are not placed at correct angles and parts of the apparatus are not level and the measure is found inaccurate. To avoid the necessity of tearing up cement work on completion of installation for the purpose of correcting inaccuracies, it would

be far better to have a public sealer test first for accuracy. Also, should a plumber or any other than a trained representative of the manufacturer install the pump, directions and blue prints furnished should be carefully read and followed. Pump manufacturers are more than willing to co-operate with purchasers, and when possible furnish an expert to install the pump. I respectfully suggest that about two Seraphin Field Standards (five gallon measure with patented device attached which indicates the exact quantity over or short) be purchased for the use of our sealers. The attached letter and descriptive picture explains in detail the advantages and cost of this standard with and without traveling case.

Dr. C. L. Alsberg, Chief of the Bureau of Chemistry, delivered an interesting and instructive address on the "Enforcement of Net Weight Amendment to the Food and Drug Act." Canners of tomatoes, peas and other vegetables and fruits mark the net weight on the cans, but frequently it is found that the purchaser buys large quantities of water. In some cases better results have been obtained by prosecuting this fraud under the head of adulteration or mis-branding rather than short weights. A certain quantity of liquid preservative must be allowed, but this fact is taken advantage of by fraudulent manufacturers and should be closely watched.

Many States are changing the name of Weights and Measures to Department or Bureau of Standards, which covers a larger field in this line of work.

Hon. Wm. G. Redfield, Secretary of U. S. Commerce, in an interesting address, told the convention that they were divinely as well as legally charged with their duties, citing a passage from the Old Testament as follows: "False measures are an abomination to the Lord." This provoked considerable laughter though the truth was duly appreciated.

I am attaching a quantity of literature in connection with these matters of value to our sealers and trust that after studying same that all of value be kept for future reference.

Respectfully submitted,

H. W. McCREIGHT,
Chief Clerk.

SOUTH CAROLINA COUNTIES.

SOUTH CAROLINA COUNTIES.

In getting information available for use in the annual report, and later for a handbook, the Commissioner wrote to representative men in every county in the State. Some have gone to considerable trouble to get information for us. I am using some of their letters in this chapter, as they give not only facts and statistics but reveal the living conditions in the State and give a new "slant" upon the farm life in South Carolina. The contributors are: J. N. Nickles, Abbeville County; C. S. Adams of Beaufort; J. G. L. White of Chester; J. H. Mayfield, Bamberg; Barnwell by Col. Harry D. Calhoun; Berkeley by J. A. Harvey, former Senator; Charleston by W. H. Mixson; Chesterfield by D. S. Mattheson, former State Senator; Colleton by Paul Sanders; Hampton by William Gifford; Horry, by J. A. McDermott, former State Senator; Oconee by Jas. M. Moss; Richland by J. Frank Clark; Union by Alan Nicholson.

FARMING IN ABBEVILLE COUNTY, 1919—By G. N. Nickles.

Formerly, when money was not so plentiful as it is now, the negro tenant, when not busy on his own farm, would apply to his landlord for odd jobs in order to obtain a little cash, but this condition has ceased to exist. It is now practically impossible to secure the services of the tenant for extra work on the farm, unless that work requires but little physical exertion, and the pay is far in excess of value received. If it is not such and the work is not to his liking, he may promise to return and complete the work but fail to show up or send any explanation for his absence. This is the annoying experience I have had on my own farm, but the same conditions prevail throughout this section, and doubtless through the entire cotton belt or wherever the negro resides with his pockets bulging with cotton money.

Notwithstanding the unsatisfactory labor conditions, I must say that it is my opinion that the year 1919 has been a record-breaker in crop production in this country, except in some sections where excessive rains curtailed the production to some extent.

Some fields yielded as high as two bales to the acre while others produced from one to one and one-half bales per acre. The yield of corn was also good, except some very late planting which was affected by dry warm weather in October. The pea crop was never better and the small grain crop was also good. Spring gardens gave a bountiful supply of vegetables, but the fall gardens were poor. The hot, dry weather during September and October prevented the planting and germinating of seed. The fall crop of Irish potatoes was almost a failure, but the production of sweet potatoes was 100% good. The yield in some instances was as high as 200 bushels per acre. Potatoes are planted in Abbeville County only for home consumption, the production is sufficient for this purpose, but few if any are shipped out of the county. The small production of sweet potatoes is due largely to the lack of facilities for storing and improper methods resorted to to preserve them during the winter months which usually results in decay of the potatoes and loss of the greater part of the crop. In order to remedy these conditions Clemson College offered to furnish plans and specifications for the proper construction of potato curing houses, and also to send an expert to give detail instructions to the builders. Some five or six buildings have been constructed and are now operating successfully. One recently erected at this place with a capacity of 1,000 bushels was soon filled to capacity, now going through the curing process.

More attention is now being paid to cover crops such as bur and crimson clover, rye and vetch. Several thousand pounds of these seed have been purchased through our county agent this fall and the weather has been very favorable up to this time for sowing and a good stand has been obtained.

More attention has been paid to the breeding of live stock, especially hogs and cattle. The thoroughbred Duroc Jersey and Poland China are as common today as the "razor back" type were twenty years ago. The Jersey is the favorite among the dairy breeds of cattle, but we also have some Holstein in the county. Quite a number of bull associations have been formed in the county by our county agent. Four of these are in Due West, Donalds and Long Cane Townships, which have purchased four fine Jersey bulls. Each association will use its own bull for two years and then pass it on to the next in order to prevent inbreeding. The Hereford seems to be the favorite among the beef type and many excellent specimens are to be found in the county.

I do not claim to have above the average farm in the county, but believing you to be more interested in average conditions than in the "model farm" I will tell you something of the development of my own. My farm was purchased thirty-five years ago in two tracts aggregating 150 acres and without any improvements at \$14 per acre. At the time of the purchase I had less than a one-horse farm in cleared land, the balance was covered with second growth pine timber and was traversed with gullies large and small. Today there is not an acre on my farm, except that portion reserved for wood and pasture, that is not in a fairly good state of cultivation and yielding above the average production of crops of various kinds. At the time of the purchase the cultivatable land was divided into patches of one to four acres scattered about on the farm. The intervening patches of second growth pines were cleared, the wood sold and the brush piled into the gullies which within a few years were filled sufficiently to enable me to plow across them. My entire farm is now practically a solid field without a gully, and no ditches except such as are necessary to drain the land.

I moved to this farm, which is situated mostly within the corporate limits of the town of Due West, from my farm in the country, in order to secure educational advantages for my children, eleven in number. The revenue from the two farms was not sufficient to meet the needs of our growing family and I therefore decided to enter politics in order to replenish my income. I was elected County Supervisor in 1900, and served four successive terms, and during my enforced absence from my home and farm in attendance upon my official duties during that time the management and direction of my farming operations were left almost entirely to my good wife, whose good judgment excelled my own, and to her is due in a large measure whatever success I may have attained.

Among other responsibilities devolving upon me in the discharge of my official duties was the management of the county home and farm consisting of about 200 acres of fairly good sandy loam soil. It had formerly required an expenditure of about \$3,000, in addition to the revenue from the farm, to support the inmates of the home. It was my desire to make the revenue from the farm support the inmates of the home and pay all expenses connected with the management of the home and farm. In this I was successful. I attributed my success in this undertaking to

the fact that the county had almost unlimited resources which provided labor and material in abundance for the cultivation of its farm. When I returned to my farm at Due West, after eight years in office, I was impressed with the idea that capital was as necessary in farming as in any other enterprise. I therefore determined to use the same principles in my own farming operations as I had in that of the county farm, and to make my own farm as productive and profitable. I began again to level the gullies that had been partly filled, to sow more wheat, oats and rye and followed these crops with peas. I began seeding alfalfa which produced sufficient hay to feed the livestock. The pea stubble was turned under, thereby improving the land and reducing the fertilizer bill.

I cannot speak too strongly in favor of planting alfalfa in Abbeville County. I seeded my first crop in the fall of 1912. I planted one and one-half acres which would produce one thousand pounds of seed cotton to the acre. A fair crop of pea vines were turned under with six loads of stable manure and one thousand pounds of air slacked builders lime and seeded on October 15th. For three consecutive years this patch yielded about three tons per acre and from four to six cuttings according to the seasons. The last years the early cuttings were good but the last were largely crap grass but made excellent. In 1913 I planted a four-acre patch which was seeded about October 15th. A fair crop of pea vines were turned under and a few loads of stable manure scattered over the thinner parts of the field. A perfect stand was secured but the stand was reduced in some parts of the field by early freeze. The yield of hay was excellent, but the surface was not sufficiently smooth for an even cutting. I turned the land again in the fall of 1917 and seeded it with wheat. The land was broken twice, thoroughly harrowed and the seed put in with the grain drill. The yield was something over twenty bushels to the acre. The alfalfa came up with the wheat to about two-thirds of a stand. When the wheat was cut twelve inches above the ground the butts of the bundles were filled with alfalfa. In some parts of the field the alfalfa was three feet high six days after harvesting the wheat. The field was gone over with a mower harvesting the stubble and alfalfa together which made a fair quality of hay. Subsequently two cuttings of good quality were secured. Last spring this land was turned, harrowed and laid off into three and one-half foot rows for cotton and two hun-

dred pounds of 16% acid phosphate put in with a distributor and the seed planted in this furrow. The yield was something more than 1,800 pounds per acre. Before the planting of alfalfa in this field the yield was not more than 600 pounds per acre. I now have planted something over six acres of alfalfa which I have cut six times this year with a total yield of about three tons per acre, and am preparing two additional acres to be seeded in March, the dry weather preventing preparation of the land in time for seeding this fall. I have learned from experience that it is best to seed the land in the spring unless it can be done before the 20th of October. If planted later it is liable to be killed by early freeze before the roots are sufficient to stand the cold. If the seeding is done in the spring one and one-half bushels of oats should be planted to the acre. After the oats are harvested the alfalfa will usually give two or three cuttings. I have found it useless to sow alfalfa without the use of lime. An application of from three to five tons per acre of pulverized limestone is necessary for satisfactory results.

My corn crop was planted almost exclusively on creek bottom land which yields about 35 bushels to the acre. Peas were planted with the corn but were partly destroyed in cultivating the corn, but quite enough were left to cover the ground with vines with no injury to the corn.

My small grain crop consisted of 13 acres, 7 of oats, 4 of wheat, 1 of rye and 1 of beardless and another of hulless and Emma barley. The yield of oats was 200 bushels, wheat 57 bushels, rye 10 bushels and barley 10 bushels. Spring barley was almost a failure caused by blight. The seed of the hulless variety was secured from South Dakota several years ago and I have raised some good crops of it. It is similar in growth to our beardless barley but threshes out like wheat—no husk on the grain. Emma is sown in the early spring and is far superior to either of the barlies as forage crop or grain to either of the spring barlies. It will grow well on poor land. It yields more grain and forage for spring usage. Nothing will equal it.

Cotton crop improved. Coker's pedigreed Cleveland big boll and Webber's 82 staple, the last named being the most popular variety. Four acres produced four bales of 500 pounds each with the use of 300 pounds of 16% acid phosphate, but on this field or patch a fairly good coat of vetch and bur clover were turned under in the spring.

I am the originator of my own seed corn. I started with the Iowa silver mine Italian red cob and a small cob white corn known in this county as the Haddon corn. I began ten years ago by selecting seed from the field and continued up to the present time and now I believe I have produced one of the best types of seed corn in the State.

My wheat is the native blue stem. I have improved this seed by going over the field and selecting the best and earliest heads to ripen. By doing this I have not only increased the yield, but have produced an early variety which is very valuable owing to the fact that an early variety of wheat is less liable to damage by rust which seriously affects the yield in the South. My wheat crop this year was ready for harvesting on the 25th of May in the poorest section of the State.

I have not used the same method in selecting seed oats. Last fall I purchased two and one-half bushels each of Fulghum and Appler oats from D. R. Coker, of Hartsville, S. C. The seed was sown side by side in the middle of the field while my own seed of same varieties were sown on either side of the same field. I threshed only the pedigreed seed, but the appearance of the grain in the field satisfied me that there was a difference. It is not my purpose in writing this to advertise Coker's pedigreed seed, but must say that this seed has done much in the way of improving planting seed in this State. There is a difference in a seed breeder and a seed dealer. Coker belongs to the first class. Our farmers have begun to realize that it is important to pay more attention in the selection of their planting seed and are now purchasing pur and improved seed in greater quantities than ever before.

I made reference in the beginning of this article to labor conditions in this county. In former times it was difficult enough to cultivate a crop of cotton and other crops with a sun to sun day and six days in a week, but the customary working hours and days on the farm in former days no longer prevail. Formerly a cropper would undertake and properly cultivate 20 acres in cotton, but now he thinks ten acres is enough and complains that he does not wish to be forced to spend his entire time on the farm but wishes time for recreation and pleasure. These conditions forces the farmer to plant much larger acreage in food crops as these can be produced with less than one-fourth of the labor necessary in the cultivation and harvesting cotton.

Will the acreage planted in cotton be increased next year? I do not think so unless labor conditions improve. The New York Cotton Exchange made repeated efforts this fall to pull the price of cotton down, but the Southern spot market remained firm. This shows to some extent that the price of cotton is beginning to become stabilized and the price fixed according to supply and demand, and not by the New York Exchange. During the days of slavery the slogan in the South was "raise more cotton to get more money to buy more negroes to make more cotton to buy more land, etc.," and for the last fifty years the slogan has been to raise more cotton to buy more corn, flour, bacon, etc. But the slogan has changed, the cry now is to make less cotton in order to make more money. We are planting more food crops and raising more live stock because we can raise these cheaper than we can buy them. For fifty years the farmer in the South has been the slave of "King Cotton." The negro was declared a free citizen in 1865, when the war ended, but the farmer went into slavery and has remained there for fifty years and until the world war brought about his emancipation and changes in his manner of farming. It is hoped that the cotton farmer has learned his lesson and that we will be able to hold what we have gained in the school of experience. We all, of course, wish to see the world well clothed and well fed, but not again at the expense of the Southern farmer.

BAMBERG COUNTY.—By J. H. Mayfield.

Bamberg County has quite a number of pure bred Hampshire hog breeders. It grows a surplus of corn. For the last five years the town of Denmark ships out annually seven to eight cars of corn. There are eleven silos in the county and foundations laid and two more in process of erection. The tallest silos in the State are 214 by 70 feet monolithic, holding over 300 tons in the Mayfield farms. There are four dairies in the county, one pure bred Guernsey herd. The second largest pure bred Holstein herd in South Carolina is in this county. Sweet potatoes have long been a staple crop, yielding from one to two hundred bushels per acre. The Puerto Rico variety is in commercial demand. Plans for the erection of a 10,000 bushel potato storage and curing house at Denmark are under consideration and the house will be built. The owners expect to pay the farmers \$1.00 per bushel for No. 1s and 75 cents per bushel for jumbos or

canning stock. An ideal farm schedule for one family, under weevil conditions, would be two acres in oats and peavine hay, two acres in rye and rape for hogs followed by Puerto Rico potatoes, five acres cotton, one-half acre sugar cane, one-half acre amber cake for stock, nine acres in corn and velvet beans to fatten fifteen or sixteen shoats, one-half acre garden. The peanut grows splendid and has been planted for years. Soy beans and velvet beans add to the attractiveness of hog raising. The Ehrhardt section of the county has long been noted for its self-sustaining farms. Denmark ships out six to eight cars of porkers in Richmond and other markets. Bamberg grows a splendid grade of bright leaf tobacco and has one warehouse built and another building for another year. The county expects to grow a thousand acres tobacco another season.

THE NEW POLICY IN BEAUFORT COUNTY.—By C. S. Adams.

Beaufort County needs the industrious farmer who is used to cultivating from 160 to 240 acres according to improved methods and improved implements.

For this man no section of the United States will respond more quickly and give better results. Many people from the North, not understanding the old conditions or appreciating the economic waste of such a system, wonder why, if the land is as good as claimed and will raise such good crops, the people are willing to sell these lands at such extremely low figures. Lands in the North and West that will do approximately as well as these lands, bring anywhere from \$75 to \$150 per acre, and it is hard for them to believe that lands that can be bought for prices ranging from \$25 to \$100 per acre will do what we claim for them.

To make it entirely clear why this should be so and to prove it is not at all difficult when one will take the trouble to investigate, and that is all we ask—investigate.

The sea islands of the South Carolina coast have for generations been the theme of song and story by reason of their historical interest and the romantic glamour thrown over them by past and contemporary writers.

BEAUFORT COUNTY'S VERSATILITY.

While Beaufort County, with its lovely sea islands, is the natural home of long-staple cotton and early vegetables, it is also the best country for diversified farm operations. This is the balance wheel of the farmer's business and the safeguard of new

residents. It is the practical application of the adage: "Don't put all of your eggs in one basket." If one product fails to find a good market, another will be successful and thus the great round of the year will show a credit. Perhaps there is no better place on earth where this plan can be worked out than Beaufort County, South Carolina. The soil and climate have stood the test for over two hundred years; and where intelligent methods are used crop failures are almost unknown. Seasons have their vagaries here as elsewhere, but upon the whole the favorable conditions are steady and can be depended upon.

All cereals can be grown. Forage grasses thrive, and it is a natural live stock country. Fruits are at home here, especially the fig, pomegranate, pear, scuppernong grape and such as like a reasonably even climate. A word regarding the splendid advantages existant here for the development of dairying must be given. The dairy cow does not exclude any of the crops that flourish here so bountifully, but she adapts herself to any system of farming, furnishes wholesome and nutritious products for the farmer's table, a steady income for his pocketbook, fertility for his land and food for his growing calves, pigs and poultry; in fact, the dairy cow is the most useful animal that our new settlers can have on their farms.

GROW WHAT YOU PLEASE.

Happiness is dependent upon success and success in agriculture depends upon three things—climate, soil and water. These three are Nature's gift to Beaufort County, and at the same time you have a freedom in regard to the choice of crops which you can experience nowhere else in the country. To go into detail would mean the reproduction of the catalogue of a nurseryman, but just a hint may instruct and interest.

While the staple products, corn, cotton, tobacco, can be grown here as easily and in greater bounty than anywhere else in the South, it is a noteworthy fact that they are not grown exclusively by our farmers, and that, instead, they are diversifying, growing truck, planting orchards, raising live stock of the best breeds and are wide-awake in many ways. The trucking industry in and around Beaufort, on the sea islands, has grown by leaps and bounds during the past ten years and while much has been accomplished, the opportunities are not wholly developed as they ought to be, and very likely will be in the near future. A conservative

estimate of the profits per acre for the Beaufort section in truck raising is around one hundred dollars. Lettuce leads in quantity raised, with peas, beans, cabbage and cucumbers a close second, radishes and string beans following.

Approximately 2,500 cars of vegetables have been shipped from Beaufort this past year, a substantial increase over the year before.

Several of the truck farms shipped more than 12,000 crates of lettuce besides their other crops, and 20,000 barrels of Irish potatoes. The lands in this vicinity in some instances are low and porous, therefore adapted to irrigation, and with the ease which splendid water is secured, irrigation is a natural consequence, about three hundred acres receiving water by the Skinner system.

The truck industry has reached such proportions in the Beaufort section and is such a valuable asset to the community that farmers, business and professional men have formed an association and placed at the head of it high-priced and experienced men to handle their vegetable crops.

Cotton, corn, oats and hay, while the vegetable crop has been increasing, these staples have also kept pace with it.

In live stock, farmers are building silos and improving their pasture lands. Stock can graze here twelve months in the year, so favorable are climatic conditions.

You can have two crops of Irish potatoes in one year upon the same land and one other crop, if you want it—making three crops on the same land each year.

Berries of all kinds seem indigenous to Beaufort County, strawberries and blackberries have proven highly profitable.

The crops mentioned here and the estimate of the average acre product in dollars and cents are not for any particular piece of ground in Beaufort County. Good farmers usually more than double the production of those who are incompetent and careless, and the man who comes to Beaufort County who puts on the market superior products and honest pack, uniform all the way through, is the man who will make the money.

CLIMATE AND HEALTH.

Kind to his crops, the weather of Beaufort County is also kind to the grower of crops. This is distinctly the Land of Sunshine. There are generally 300 days in the year in which the sun shines

all day or parts of the day. This means health. Germs are never born under a strong sunlight. From the earliest days Beaufort County has been a land of health.

It is hot here in July and August, but you are not parboiled, for there is a cooling breeze blowing from the Atlantic Ocean, a few miles away, and from the waters of the adjacent sounds that temper the atmosphere and make the nights cool and the mornings are fresh and sparkling. There are no sunstrokes or prostrations from heat. All this spells comfort and health.

BARNWELL COUNTY.—By Col. H. D. Calhoun.

"Billie Boll Weevil" has invaded our county, and is securedly entrenched, and it becomes a question as to who will win the fight, Billie Boll Weevil or the farmers of our county, and being South Carolinians, of course we are not going to run, and cotton being our money crop we are going to give him an awful fight by only planting a small number of acres to each plow so that we may cover it daily if necessary and pick up the squares and burn them, then we are going to plant more peanuts, raise more hogs and cattle, and as our part of the State is peculiarly adapted to trucking, such as watermelons, cucumbers, canteloupes, asparagus, etc., we feel perfectly comfortable that "Billie" will have a hard time "going over the top." Our county is the largest in the South in the production of "asparagus" and our people are transplanting more of it each year. Of course corn, oats, sweet potatoes are grown largely in our midst, but there is to my mind a coming crop that our farmers ought to look to more, and that is the growing of sugar cane, sorghum, etc. The scarcity of sugar at this time caused by prohibition will be more acute in my opinion, and as sweetening is being used more largely in so many industries I believe that the growing of five to ten acres of sugar cane for commercial purposes is worth looking into, as the syrup is selling this year at \$1 per gallon in barrels right on the farms, and in my opinion as I have said it will be higher and we are advocating the growing of it as "Billie Boll Weevil" cannot eat it up.

BERKELEY COUNTY.—By Col. J. A. Harvey.

In Berkeley County there is quite a large interest in stock raising (cattle, hogs and sheep) on what is known as open or free range territory. At least three-fourths of the county is exempted

from the no-fence law. The fields are fenced and the stock runs at large on the open ranges.

These lands are mostly swamp-bay and cut over pine lands, unfit for cultivation or anything else without thorough drainage, except stock raising. The stock runs on the range the entire year without shelter. The industry has grown to be quite an item in the wealth of the county.

In May last there was dipped in the county over 25,000 head of cattle in the tick eradication work. This work was commenced in the county five years ago and has improved the condition and the quality of our cattle very much.

The past summer there was sold at my lot for my neighbors and myself four carloads of cattle at prices ranging from 8 to 9 cents per pound on foot and one carload of calves at 10 cents per pound. Three loads of these cattle were shipped to points in North Carolina and one to Hartsville, S. C. Calves shipped to New York. I sold hogs taken from the open range at prices last winter from 18 cents to 16 cents and the last lot in the spring at 12 cents. The use of the Cholera serum will revolutionize the hog raising in this section. The acorn mass is a big item in hog raising on the open range and we usually get a mass about two out of three years. When we do get an acorn mass all that is necessary to make the hogs good meat is to feed them on corn for about two weeks. We have a fairly good sheep range and could raise them with a big profit if we only had a dog license law with some teeth in it, and let the license money create a sinking fund out of which the owner could be paid for sheep killed by dogs after properly proving before a commissioner that they had been so killed.

We should also have a mark law and brand law requiring registration of same. We also have in the county sections well adapted to stock raising in pastures where running water can be secured the entire year, and pastures connected with planting lands which is absolutely necessary where stock is to be raised in inclosed pastures.

Kind of stock suitable to range. After over 40 years' experience in stock raising and trying cattle, hogs, and sheep of pure bred stock, I am convinced that the cross or grade stock will do best on the open range. Especially the hog—they are more hardy and better hustlers. I have recently sold some choice hams at

46 cents per pound made from hogs killed off of the open range last winter.

CHARLESTON COUNTY.—By W. H. Mixson.

This section in the past has produced several crops that for one reason or another had to be discontinued almost entirely, and if it was necessary to discontinue entirely the production of cotton, I feel sure that our people would be as prosperous, or more prosperous than they are today.

The cotton production with us will be reduced at least 50% in 1920. Our farmers intend to plant from three to fifty acres to the farm. Some few, of course, may plant more. Their policy is going to be plant early, and some will make two plantings, so in case the first planting gets killed by a frost, there will be another planting coming on which will probably escape. They will plant the second planting a week to ten days after the first. They will fertilize heavy, cultivate intensely, and poison the boll weevil, and they will probably make as much cotton in these counties as they did this year.

Of course I do not mean to say that every man will adopt this plan, but I have talked to a number of farmers, and it is their intention to do as I stated, which I consider very wise.

On the other acreage not planted in cotton as it was in 1919 will be planted to peanuts, sweet potatoes, velvet beans, and some are expecting to experiment with small acreages of flax.

The raising of live stock is growing very rapidly in this section. A number of high class bulls have been brought in, and the quality of cattle has been tremendously increased.

The hog growing industry is growing very rapidly and they are securing high class pedigree stock as the foundation. It has become a common thing to have a farmer pay from \$150 to \$300 each for brood sows, and an account of the mild winters which enables pasture to be used many more months than it is possible in the Northern States, and the fact that cattle and hogs thrive in this section possibly as well as any other section of this country. It is very probable that in a few years the raising of live stock will be the principal industry in this part of the State.

The trucking industry is one of four most profitable industries, but on account of the great amount of speculation in growing this crop a number of farmers do not go into it, as they are afraid to take the risk. In 1917 there was an immense amount of

money made in Charleston and Beaufort counties on the raising of truck. In 1918 Charleston County as a whole came out a little behind. In 1919 this county and also Beaufort County made some money, but the profit was very unevenly divided. Some growers made as much money as they made in 1917, and others made very little, and a few lost money.

In 1919 those that had crops of cabbage, and got a fair yield made big money as cabbage averaged in these counties about \$4.00 a crate of about 100 pounds net to the farmer. The early potatoes sold for big money. But on account of the excessive rains at planting time most of the crop was put in late causing a large part of our crop to go on the market at the same time crops from the North were on, this overlapping of crops caused the bulk of our potatoes to be sold at very low prices. But the farmers that were fortunate enough to get their potatoes in early, and get them off early, and had a good crop of cabbage made big money. These two commodities make up the principal tonnage shipped from this section.

Crops such as beans, cucumbers, lettuce, beets, etc., did not do as well in 1919 as the average for former years, due to climatic conditions, and delays in transportation.

Farmers in this section are prosperous and in nearly all cases are able to finance themselves, with the assistance of their bank credits. Eight or ten years ago they had no credit in the bank and had to be financed largely by the commission merchants in the North.

Three selling agencies located in this section, namely, South Carolina Produce Association, Atlantic Coast Distributors and the Beaufort Truck Growers Association have helped considerably to bring about these conditions. About 95% of these truck crops that are produced in this section are now sold f. o. b. for the cash, and the cash promptly turned over to the farmers, instead of as they formerly did ship these goods to Northern markets, and trust to luck that they would get a paying return, and often they were disappointed. Not so much the fault of the commission merchants, as the fact that there was no system to the business. The markets often became glutted, and the goods were sold for freight charges.

We have plenty of excellent land in this section, that can be acquired at a reasonable price, and one seeking these advantages can do no better than to locate in this section.

CHESTER COUNTY.—By J. G. L. White.

The climate of the county is mild, healthful and adapted to a wide variety of farming interests. The summers are long and except for short periods the weather is not at all oppressive. The winters are short and open, with only an occasional snowfall or sleet storm. The ground rarely freezes more than two or three inches deep. The danger from frost is generally past by the first of March and as a rule none is expected in the fall until well into October. The growing season is about $7\frac{1}{2}$ months long.

The mean annual temperature is 61 degrees F., although the extremes vary widely, from 105 degrees to 11 degrees F. The annual precipitation varies from 41.9 to 57.2 inches, the average being 48 inches. The heaviest precipitation occurs in February. The rainfall during the summer months is well distributed for crop production.

AGRICULTURE.

Agriculture in the county dates from its settlement in 1750, progressing steadily until the Civil War. Following the war came a period of depression, from which the county is now emerging and making rapid strides toward prosperity.

Cotton did not begin to assume importance as a money crop until after 1800, when the acreage increased rapidly from year to year until it became the chief crop. Other crops are grown in a limited way, including corn, oats, cowpeas, sweet potatoes, and hay. The tenant or renting system found in Chester County today is the natural result of the economic evolution following the war. Tenants have taken the place of the earlier labor, but cotton continues to be the money crop, around which the entire economic structure is built.

The general depression following the war was reflected in the land values, which were only a fraction of what they are today. In other words, land now readily commanding \$50 to \$100 an acre was then selling for \$5 to \$25 an acre. The crisis was reached when cotton dropped to 4 and 5 cents a pound in the early nineties. Then there was a change for the better, and rapid strides have been made ever since.

Cotton has been bringing a fair to good price during this time. Nearly all of the land-owning farmers have paid their debts and some have become well-to-do, in many instances owning a great deal of land which they rent out. Signs of prosperity are seen

in numerous new barns being built and old places better kept, in good farm stock and improved types of machinery, and in the very rapid advance of land values. The renters, consisting very largely of negroes, have not made much headway in acquiring property, but they are living better than they did fifteen years ago.

On the average farm from one-half to two-thirds of the land under cultivation is devoted to cotton, anywhere from one-third to one-half to corn and a much smaller acreage to oats, cowpeas, sorghum, sweet potatoes, etc., which are grown almost entirely for home consumption. Considerable cattle are found on the farms and quite a number of farmers in the past two or three years have purchased fine Guernsey cattle.

The census of 1910 showed 312,751 acres in farms, of which 156,133 acres were improved. The size of the average farm is given at 86.3 acres, of which 43.1 acres are improved. Farm property in the county is valued at \$6,749,909, of which \$4,114,197 is in land, \$1,397,278 in buildings, \$260,908 in implements and machinery, and \$977,576 in live stock and farm animals. The value of all farm property in 1890 was given as \$3,657,053.

From the Thirteenth Census, reporting the 1909 crop conditions, we find 61,895 acres in cotton, producing 24,249 bales; 33,830 acres in corn, producing 309,160 bushels; 5,726 acres in oats, producing 81,347 bushels; 3,024 acres in hay and forage, producing 3,526 tons; 364 acres in wheat, producing 2,801 bushels, and 686 acres in sweet potatoes and yams, producing 49,662 bushels. Among the minor crops reported were 63 acres of Irish potatoes, producing 4,533 bushels and 64 acres in peanuts, producing 660 bushels. A majority of the farmers grow small patches of sorghum, most of it being used in making syrup for the home table.

Alfalfa has attracted some attention as a forage crop, although only a few attempts have been made to grow it. The requirements of the crop are not very well understood, but several have made quite a success with alfalfa where the proper preparation has been made. The first requisite is a well trained soil, not too sandy, not too tenacious, well cultivated and containing a good supply of lime either naturally or by application. No attention is given to the growing of fruit aside from the few apple, peach, and other trees in the home orchard. There is no reason why all farmers should not have an abundance of good

fruit from early summer until late fall. The Cecil coarse sandy loam and the sandy loam, also the Durham sandy and coarse sandy loams, are specially adapted to peaches and will grow good pears, apples, cherries, figs, grapes, and a variety of berries.

While there is a scarcity of labor in the spring and summer months, usually no trouble is experienced in the fall in getting hands to gather cotton. Hands hired by the month are furnished a house and garden and board and receive from \$12 to \$18. The cotton is picked for a stipulated amount per hundred weight, usually 75 cents. The size of the farms varies from 50 to 1,000 acres or more, the average being between 150 and 500 acres. Some of the larger plantations are divided into a dozen or more tenant farms. The average size of the farms as given in the 1910 census report is given as 86.3 acres. The agriculture of the county has advanced wonderfully in the past fifteen years, especially among the landowning class of farmers.

GOOD ROADS AND STREETS.

Chester County will have some of the best roads in the State as soon as the work now under way is completed. A bond issue of \$450,000 was voted and it was originally planned to improve 201 miles with this amount, but on account of the continual increase of material and labor this had to be reduced to 140 miles. However, this will embrace all the leading highways of the county. Two principal through roads now being improved are from Lewis Turnout to Blackstock and a road from east to west across the county. In the latter project Federal aid is being given.

The city of Chester will spend \$208,000 in street improvements voted under a recent bond issue. This will provide sufficient funds for paving all the leading streets to connect up with the county's top soil highways. This important work, which reflects in no small degree the progressiveness of Chester, augurs well for its continual growth as one of the enterprising cities of the prosperous Piedmont section. Along with this recent bond issue \$35,000 was voted by the people to be used in modernizing the waterworks plant and for its extension.

CHESTERFIELD COUNTY DURING PAST DECADE.—By D. S. Matheson.

Chesterfield County, like "All Gaul", might be divided into three parts, the upper or northwestern part; the sandhills, or southwestern, and the eastern or river section of the county. In

general the three sections conform to those into which the State is usually divided as follows: the upper portion is Piedmont in character, with red clay hills in evidence; the sandhill section is typical of that belt which crosses the State, and the river section is the beginning of the coastal plain which is the type of land of most of the Pee Dee counties, as well as many of the other counties in the lower part of the State.

Viewing the county as it was during the decade preceding the present one, we find that the upper division was thickly settled with a sturdy, thrifty, independent population of small farmers, but without railroads during the first part, and with only one small town within its borders. The difficulty in getting commercial fertilizers and in marketing the crops had greatly retarded the development of this section. The sandhill portion was sparsely settled with scarcely any farming being done. For years turpentine had been the chief industry and this had played out, leaving this section in bad condition. The river portion, with Cheraw as its center, was cut into large farms which were in a run down condition, conforming to the rule in such cases where large farms worked by negroes obtained. In all parts of the county land was ridiculously cheap. Thousands of acres were sold as low as one dollar an acre, and even in the latter part of the decade twenty dollars was a good price for improved land.

All of these conditions have been changed. The county now has a very satisfactory railway system. There are five roads that cross the county in such manner as to give good railroad facilities to nearly every locality in the county. This has resulted in building up a number of thriving towns and villages. There were only two, Cheraw and Chesterfield, that could have been called towns. There are now those two, with double their former populations, and in addition the towns of Pageland, Mt. Croghan, Ruby and Jefferson in the upper part; McBee, Middendorf and Patrick in the sandhills, besides many station villages all over the county.

Another index of the county's development may be seen in its banking facilities. At the beginning of last decade the county had one bank, with an average deposit of not over \$100.00. There are now nine banks with an aggregate of over \$2,000,000 deposits. And where during the last decade the exception was for a farmer to run his business on a cash basis with money borrowed at a bank, now it has become the rule. But the greatest advance has

been made in the county's leading industry, farming. If the bank deposits of the present exceed those of the last decade by two thousand per cent., it is because the farms of the county now produce annually at least ten times the wealth they did during the last decade. Of course this has been attended by a great advance in land values. There are many farms that were purchased then at from five to ten dollars an acre that now would bring from fifty to two hundred dollars an acre. One satisfactory fact connected with this advance in prices in this county is that it is due not so much to the present high prices as it is to the development and improvement of the lands. Many farms are producing ten times as much as they did formerly, which entitles them to most of the advance prevailing today. This increased production is due to better farming practiced throughout the county.

Education in the county has kept pace with the material progress. In the fifty-three school districts there were only a very few that did not have dilapidated little one-room schoolhouses, and consequently, one teacher schools. In the past ten years over thirty new, modern schoolhouses have been built, many of them of brick and containing several rooms with all modern appliances. Quite a number of the strictly rural schools have two or more teachers, and about all of the districts have special levies for school purposes, some having levied as many as 23 mills therefor. The county ten years ago would have been totally unprepared for the new compulsory education law, but now is able very comfortably to house and care for the white children, and do fairly well for the colored children.

Another improvement of recent date is to be found in the roads and highways of the county. They are far from perfect now, and some of them are very bad. But to one who began driving an automobile ten years ago the change has been very gratifying. Few counties have had more to overcome in the way of bad roads than has had Chesterfield. But in the face of this highways have been built and rebuilt all over the extensive area of the county and have been fairly well maintained, and the universal complaint against bad roads shows the determination of the people to stop at nothing short of the best roads. Chesterfield also has its share of the automobiles of the State and they demand and assure improved roads, and to a county whose people a few years ago had to travel, most of them, to market through miles and miles of either sand or mud in wagons or buggies, to be able

now to go five or ten miles to market in twice that many minutes is a most wonderful advancement.

As might be expected the farm homes have also shown a great improvement over those of the last decade. Where it was the rule to see small, unpainted, unattractive homes throughout the country, one now sees neat, attractive houses, and often handsome homes on the farms as well as in the towns and villages. Along with this, unconsciously, perhaps, the dress and general appearance of the people have improved. Altogether it is doubtful if there has been more real progress in any county in the State than there has been in Chesterfield during the past ten years.

COLLETON COUNTY.—By Paul Sanders.

I take pleasure in calling the attention of the public to a very few of the countless advantages offered in the coastal plains of South Carolina. More particularly do I wish to direct attention to that portion of this great State of ours embracing the trucking district of Charleston, Beaufort and Colleton counties. I know of no section in the United States that offers any more natural advantages than does the section above referred to, due, first, to the wonderful uniformity of rainfall, which is by comparison second to none. I am sure that statistics will bear this out. There is, in my judgment, no better section for maximum development of plant life, and I think it is generally conceded that the natural conditions are conducive to profitable stock raising, which is borne out by the success that is now being achieved by a number of stock raisers who have only comparatively recently begun activities in this line.

The natural fertility of our soil, the magnificent climatic condition, the beautiful lay of our farming lands, the natural waterways for the development of drainage propositions, the easy access in a number of localities in this section to artesian water for irrigation used in connection with certain class of trucking, abundant supply of labor, and comparatively cheap lands, render this section most attractive to outsiders who are seeking new fields for operation along the lines of agriculture.

It may be that I am a little over-enthusiastic about the possibilities of this resourceful section, but having lived here all of my life and having compared the advantages here with those observed elsewhere, I think not.

I have mentioned only a few of the natural advantages. It would take volumes to cover the great blessings with which Providence has so kindly endowed us. I stand ready to substantiate my claim for this section plus a great deal more that I have left unsaid, and will be only too glad to demonstrate to the satisfaction of any prospective settler that this county possesses all that is claimed for it and "then some."

COLLETON IS AWAKE.

The citizens of Colleton in the territory which has already felt the effect of the boll weevil, do not propose to let 1920 find them frightened and unable to fight back. They propose to give the boll weevil a mighty tussle—and they will win. This county a few years ago would have fallen a weak and ready prey to the boll weevil, but in the last decade there have been at work earnest men who have advanced the general intelligence of the county and have led the farming class away from rice and cotton into diversified agriculture and cattle raising. The county has yet the greatest possibilities, and the coming of the boll weevil is no doubt a blessing in disguise.

The boll weevil works upon system. He trains his army to work as systematically as the little ants, which we know have army regulations. And the only way to defeat an organized force is with another force a little bit better organized—and more forceful.

The people of Colleton have organized what is known as the "Colleton Products Association." Among the purposes of this organization is to build at least three potato storage houses and erect a grain elevator, with a market for everything the farmer has to sell. Work on these will begin at once, or as soon as the articles of incorporation are concluded.

The capital stock of this company is \$100,000, and all of the stock has been taken. E. T. H. Shaffer is the president of the association, Paul Sanders, vice-president, and C. G. Padgett, secretary and treasurer. The association has gone on record as approving a farm demonstration force of three men. The agent now on the ground, F. W. Risher, has already done excellent work. One of the demonstration agents will be expected to give his entire time to sweet potatoes and peanut industries; one to live stock and cotton, and one to boys' club work. There is sym-

pathetic co-operation between the association, the banks and the legislative delegation. One of the definite undertakings is the building of potato storage warehouses in several parts of the county.

One of the most potent factors for building up Colleton County has been the Walterboro Press and Standard, whose editor, W. W. Smoak, concludes a ringing editorial with this statement:

"We are at the parting of the ways. Good sense and business judgment advise against cotton and in favor of these other crops. Even rats will desert a sinking ship. Farmers of Colleton should be as intelligent as rodents.

"Get behind the Colleton Products Association and make it go strong and big, and at the same time mould an independent future for yourself and prosperity for the county. This is Colleton's opportunity."

That the people of Colleton realize that they have a newer and great opportunity is observed in the following news item from the same paper, December 3rd:

"One of the largest land deals ever negotiated in this county as a purely farming proposition was that which will result in the sale of the farm of S. E. Boyonton, a few miles from Green Pond in lower Colleton. An option has been given by Mr. Boyonton to W. H. Logan of Kentucky for the purchase of his farm for \$100,000.00. This farm comprises 5,370 acres of fine farming land, and is stocked with fine cattle and hogs. Mr. Boyonton has the largest herd of pure bred Hereford cattle in the county besides a great number of grade cattle. It is understood that the sale of this property carries with it all farm machinery, mules, sheep, and hogs, and 150 head of cattle, including the Hereford herd. Mr. Boyonton reserves a portion of cattle, a few horses and hunting rights for himself and sons. This deal was negotiated by Mr. Crittenden of Greenville, associated with F. H. Hyatt of Columbia. It is understood that the purpose of the purchaser is to make one of the finest stock ranges in the country of this place."

HAMPTON COUNTY.—By William Gifford.

Hampton County has three great railroads running through it lengthwise, another along the southeast border, and one short line from northeast to southwest, connecting with the C. & W. C. at Hampton Court House. There are very few points in the county

located more than five miles from a main line railroad station where freight and passenger trains stop regularly several times every day. Every corner of the county is covered by daily mail deliveries, and the railroad postoffices receive and dispatch mail from two to four times a day.

There are five large furnace heated brick school buildings and five frame graded ones in the county, in addition to about twenty one-teacher schools—all for white pupils. There are about seventy teachers employed in the white schools for the children of a white population of about six thousand. The number of teachers, therefore, will compare favorably with the number employed in most cities to teach students below the collegiate grades. All the graded schools run nine months, and the one-teacher schools from seven to nine. The larger children of families who patronize the local schools have the privilege of going to the graded schools and being taught through the ninth grade, and they very seldom have to ride more than two or three miles.

There is great complaint by traveling salesmen, and the automobile public generally, on account of the poor condition of the highways, but the farmers and lumbermen seem to be satisfied with them; at least they are not enough dissatisfied with them to assess themselves with special taxes to improve them. The reason for this, of course, is because the hauls for the farm and forest products are very short. The great majority of farmers and saw mill operators can receive their supplies and deliver their products at railroad stations located only a mile or two from their fields or woods, and in most cases they can take their choice of shipping directly to Charleston, Columbia, Savannah, Augusta or Port Royal.

The roads are very irritating to men who use automobiles for business, but automobiling for most farmers is just a sport, and when you come to think about it there is more sport in steering a machine around pot holes and through wiggly sand ruts than in just letting it glide along a nice wide boulevard. No genuine sportsman cares to murder birds that are driven over him in flocks. He prefers to pull through bushes, stumble into holes, and over logs, and take snapshots at the quail as they whirl up from under his feet and flit between tree-trunks and saplings. He grumbles all day long at the labor and danger of falling down and blowing a hole into himself, and he's tired and worn out when evening comes, but he has the feeling of satisfaction that

his bag of birds has been earned, and that each victim had a reasonable chance to get away. He remembers each one distinctly; just how it got up, just how it looked when he fired, just how it fell, and just how hard it was to find. And that's the way with most Hampton County people about automobiles. If they simply want to go or come they ride our trains, but they take to the automobile as a genuine big game sport which has about as much hazard in it for the rider and the machine as for the objective.

About three-fourths of the land in the county is too swampy to be available for cultivation under existing economic conditions, but the soil of the fields will average as good as that of any section of the Atlantic coast plain from Maine to Florida. In 1918 the average production of cotton was nearly a bale to the acre—about twenty-eight thousand bales on a little over thirty thousand acres. Any sort of fruits (except citron), vegetables, and staple crops which grow in the United States produce abundantly, except wheat, clovers and annual hay grasses. And the exceptions are due more to low elevation above the sea and humidity of climate than to unsuitableness of soil. The advisers of the farmers have taught them how to drain the land, but they haven't shown them how to drain the atmosphere yet.

The people are fairly prosperous and contented, the most prosperous being the most ambitious and the least contented—as elsewhere. The county has a poor house and farm, but the former has been uninhabited except by the paid superintendent for a number of years, and the latter has to be cultivated by hired laborers, if at all. Since the liquor traffic has been eliminated, the door shutters on nearly every one of the municipal jails of the seven incorporated towns of the county have rotted and fallen from their hinges. This is mentioned in a paper on "Farm Life in 1919," because the jails used to serve as lodging houses for farmers enjoying "larks" in town. And the chain gang has dwindled to a very small squad. And that is one of the troubles about the public roads: they were kept up so long by convicted thieves and murderers that even self-respecting negroes do not care to be seen working them for pay. In many large sections of the county there has been no arrest or indictment of any person for a misdemeanor in several years.

All of the people of the county are farmers, not excepting lawyers, doctors, bankers, ministers, male school teachers, butchers or barbers. The ladies in the family of one of our most

patriotic citizens, who operates an enormous saw mill, grow all the vegetables and milk all the milk they need for their own table, and some to use as presents for their neighbors.

There are about twice as many negroes in the county as white people. The relations of the two races are singularly harmonious. and are confined strictly to business. The mulattoes who are seen are all descendants of people of mixed blood who were born during or before the Civil War. The crimes are nearly all committed by white against white, and by black against black, and there is very little thievery, even of matured crops unguarded in the fields.

The farmers, white and black, who live out of the towns and villages, are able to have all the comforts and luxuries they care to bother with. They have organs, pianos, cold "dope", chewing gum, electric lights and waterworks. All you have to do in Hampton County to get the last named is to bore a hole in the ground seven hundred feet deep and connect some pipes to it. The water will run up just as high as the pipe goes, and there will be enough for you to use in kitchen, bathroom and laundry, to spray the flowers, sprinkle the garden, and water the live stock. Also to keep a fountain in your front yard in constant operation, which is a luxury no private person can afford in a city now. By flowing constantly, the seven hundred foot well will supply water enough to irrigate an acre of land; but two enterprising Hampton County farmers, one a dentist by profession and the other a storekeeper by trade, have recently discovered that a well five hundred feet deep working upside down will drain a two thousand acre lake in a jiffy.

The towns and large sized villages have regular Lyceum entertainments from fall to spring, tent revivals, and baseball through the summer, and peripatetic shows and carnivals in winter. A little over a year ago a famous country revivalist at Brunson, S. C., expressed wonder at the psychological phenomenon that in outward actions the effects of religious elevation were exactly the same as those of alcoholic inebriation. City people rarely have opportunities to get worked up to such a pitch of spiritual enthusiasm as the rural population of Hampton County experience at regular intervals.

The negroes have their own baseball games and picnics, and they have the privilege of admission to the tent shows and carnivals. What they lose in the Lyceum they more than make up

in the frequency of their all-day-and-night-long church services. There are six negro churches within a mile of the little village of Gifford. A young lady from Laurens, S. C., who taught school here last year, said that if she were a negro she would rather live near Gifford than any place she ever heard of. But it is about the same everywhere else in this county. Indeed the farm life in Hampton County is more wholesome and preferable in every way to life in a city. We have snakes, but they don't bite people; we have caterpillars, but they ate all the leaves in some cotton fields, and compelled the boll weevil to seek new pastures; we have mosquitoes, but they are not as vicious as Columbia and Charleston mosquitoes; typhoid fever is seldom heard of on a farm; we don't have cockroaches, we don't have strikes, we don't have burglars, we don't have blind tigers, and when we go out of doors we have plenty of room to dodge automobiles. So, as Kipling would say, there you are.

It is an actual fact, Mr. Editor, the writer came to Hampton County from New York City in 1896, and he has never been back or wanted to go back, whether the price of cotton be forty cents or seven.

DEVELOPMENT IN HORRY COUNTY.—By J. A. McDermott.

The development of Horry County during the past year has been a continuation and concentration of the same factors operating during the past several years. This development has been almost entirely agricultural, the growth of other industries being dependent largely upon the prosperity of the farm. The only prominent industry not so dependent is the saw mill business; and this has not much increased in the production output though there has been material increase in prices received.

A better knowledge of farming and more intensive cultivation, rather than an increase in acreage cultivated, has been an increasing factor in our agricultural development. The great increase in the selling value of such agricultural products as tobacco, cotton, Irish potatoes and some kinds of truck has netted the farmer more than usual returns for his increased work. A much larger proportion of the farmers' money is being put in farm and home improvements than a cursory view of our situation might show. A very large portion of our farmers' money is being used to increase the value of farming lands.

The market value of real estate has advanced very rapidly, but good farm lands can be purchased in the county at prices ranging from thirty to one hundred and fifty dollars per acre. At these prices more lands are changing hands than ever before in the history of the county. So far as can be observed there is little speculative value yet entering into these land sales. The prices being asked and paid constitute a present real value of the land for farming purposes.

Our county contains between one thousand and eleven hundred square miles of territory, and it is very doubtful that more than 20 per cent. of this territory is cleared and farmed. There is a great deal of room for more and better farms than we have yet been able to develop.

There is a great deal of land in the county which could now be very profitably used for raising live stock, hogs, and cattle especially. The government is winding up tick eradication in the county and during the several years this work has been going on the number of cattle and hogs in the county have materially increased. This increase has been largely of improved qualities of live stock. The present indications are that our people have hardly begun the plans for raising live stock they already have in mind.

The county has recently bonded itself in the sum of \$200,000 for the building of good roads. This is by no means enough to make good roads throughout the county, but the increasing interest of our people in the building of good roads indicates the certainty of their being built.

The vital need of schools is thoroughly appreciated by all our people and the immense progress made in developing educational facilities by local effort is showing itself in every community in the county.

The bank resources of our county has increased over double within the past three years. More money in circulation among the people by far than ever before in our history.

We are free from labor strikes and industrial unrest. No Bolshevism or anarchism prevails in our borders. Our people are prosperous and contented.

FAIR PROSPECTS IN OCONEE.

"In my opinion," writes Henry L. Verner, "and from the progress our farmers are making in general farming, I consider the prospect for better farming, and a better system of operating the farms than has ever been done before. The farmers in Oconee usually raise almost everything they need on the farm, and it is an exception to the rule to see a farmer who hauls his meat, corn and hay from town to be used on his farm.

"In Oconee County we raise successfully corn, cotton, wheat, oats, rye, barley, cane for syrup, and all kinds of hay, and the clover grows well here. In fact, we can and do grow almost any crop well in this county. Pardon me for a personality, but in regard to grasses I have now growing in my pasture a dozen or more grasses, and, of course, when grass grows well one can raise stock successfully. All we need now is a better educated body of farmers who will know how to market their farm produce to better advantage."

OCONEE COUNTY.—By Jas. M. Moss.

During the year 1919 the farmers of Oconee County have enjoyed an era of unwonted prosperity. That this is true is evidenced on every side and in every line of farm work. To begin with, the farmers were well equipped with farm implements, good stock, and they have used a great deal of fertilizer.

In some sections of the county it was difficult to cultivate the crops on account of excessive rains during the summer, while in other sections there was more or less drought.

The fall has been ideal for gathering. A great deal of hay and other rough feeds have been harvested and housed, and the quality is most excellent. A large portion of the cotton crop was picked before the rains came to damage the grade, and the first killing frost came so unusually late that there will be little cotton frost-bitten in Oconee County. It is probable that the yield of cotton in this county this year will exceed the yield of 1918.

The staple of the cotton in the Piedmont is good, and the farmers have received good prices for it. They have used their income in repairing their residences and outbuildings, or in building new ones. Although building material is said to be high, yet more building and repairing has been done in this county than ever before in any one year.

The corn crop is short in comparison with some former years, but the yield of sorghum, potatoes, both sweet and Irish, cabbage and other truck of farm and garden have been good.

During the year the State Highway Commission has had the road from Clemson College through Seneca and Walhalla to the Georgia line at Russell's surveyed. This road is to be constructed in 1920. The old roadbed of the Southern Railway Company will be used over most of the distance from Clemson College to Seneca, and the new route from Seneca to Walhalla will be changed so that the Blue Ridge Railway will be crossed only once at a grade crossing. As the road now stands it crosses the Blue Ridge road eight times between Seneca and Walhalla. The State Highway Commission has also surveyed a road from Seneca to Madison through Westminster. Most of the old Southern roadbed will be used from Seneca to Westminster and the old Southern roadbed will be used entirely from Westminster to Madison.

AGRICULTURAL OUTLOOK FOR RICHLAND COUNTY.—J. Frank Clark.

The greatest development along any agricultural line in Richland County has been the development of the live stock, and especially that of hogs. There has been within the last two years at least one hundred per cent. increase in the hog production, and at least one thousand per cent. increase in the number of pure bred animals. The various communities have adopted the same breed of live stock, and you will find practically all farmers in a community growing the same breed of hogs, cattle, etc. This has also been extended to the various field crops, such as corn, cotton, etc. The farmers are beginning to realize as never before the advantages of standardization in live stock as well as field crops.

The cotton crop in Richland was not as good as we once thought it would be, but on the whole the farmers are not so much dissatisfied with their yields. It is true, that there were every imaginable thing it seems to decrease the yield of cotton, but in spite of all that the farmers have done pretty well. The greatest loss from any one thing (other than the weather conditions) was caused by the boll rot or cotton anthracnose. With the presence of the boll weevil the farmers have used better judgment in the selection and care of their planting seed.

The boll weevil was first discovered in Richland County on Friday, October 10th, and from that time until this the farmers everywhere all over the county have been anxious and willing to take advice in regard to the much dreaded pest. The farmers are now beginning to make plans to combat the weevil, and they are going to do it by growing other cash crops in connection with their cotton crop.

The corn crop this year, while not so good in some sections, on the whole was fair. The corn acreage will be increased by fifteen per cent. in 1920 is my opinion at this time.

The development of the peach industry is slowly but surely finding its way to the old sand hills of Richland County. Last summer I went with a representative bunch of men from Richland to the peach section of Georgia to study their method of handling the peach crop on a commercial scale. We were all very much pleased with the information we obtained and the things we saw. I have come to the conclusion that we can grow peaches of the same quality, if not better than the best at Fort Valley, Georgia, and we have the advantage of much cheaper land. I believe we can put our crop on the market at a much cheaper figure than the man in Georgia when the price of land is considered. If the nursery stock was not so hard to get we would put in this year at least three hundred acres. I believe some day the sand ridge of Richland will be developed into one of the best peach sections in the South.

The increase of live stock necessarily called for an increase in hay and forage, and in looking around over the county you will find more alfalfa, more crimson clover, more soy beans, and velvet beans, etc., which marks the beginning of the end of the old system of farming.

The tobacco crop is fast gaining favor as a cash crop, and will go a long way in fighting the weevil. The men that commenced growing tobacco last year were very much pleased with the results, and next year will find a much greater acreage planted to tobacco.

The sweet potato is another old crop that has at last found its place on the average farm in Richland County, and by the erection this year of sweet potato storage houses that will hold 4,500 bushels, and what we had here already, I think the method of growing and handling the sweet potato crop has been solved.

And I expect to see this developed into a real cash crop within the next few years.

The peanut is also finding its way to the farms of the county, and since the arrival of the boll weevil it will be grown more than ever before. The crop is being used now largely for hogs.

One of the big things that face the farmers of today is the disease of both plants and animals. I realize that much has been done along this line, but there is still much to do. I will only mention one of these and that one is hog cholera. I have treated 927 head of hogs for cholera, to say nothing of what the other men have treated.

"UNION'S GROWING—KEEP IT GOING."—By Alan Nicholson.

Union County farm lands, which are far better and more inviting than can be seen from a railway car window, have been steadily increasing in value the past year, though by comparison with soil of equal productive capabilities in other counties, the top notch prices have not yet been reached, and bargains are everywhere to be had, for farm lands have never been fully appreciated or valued at their real worth by even Union County farmers until recently, with the result that many far-sighted outsiders who have come in have made big profits by investing in Union County dirt, among the instances that might be cited being one farm that was bought for less than \$10,000 less than six months ago and which was sold recently at a profit of around \$30,000.

What is true of farm lands applies with equal truth to city real estate and values have doubled and trebled within the past two years, and still on a basis of comparison with other towns are very reasonable, which shows that city property will go much higher because of the rapid and permanent expansion of the city.

During the past year many new enterprises have been organized and as Main Street buildings are now no longer to be had, numerous substantial two and three-story brick buildings will soon be under way to provide quarters for growing concerns.

To provide homes and rooms for the many persons who each week come here and wish to locate, attractive residences are being built in various sections of the city, and to provide home sites and afford opportunities to home seekers to get lots, a suburban project, known as Hillcrest Place, and which affords some of the choicest as yet undeveloped residential property in

Union, will be offered for sale on Monday morning, November 3.

In regard to the textile industry Union has as many mills, as large, and as modernly equipped, and with as attractive surroundings as can be found anywhere in the State and South, extensive improvements, such as the installation of sewerage systems, the providing of cement sidewalks and other things that will not only provide for and promote the sanitary and educational side, but for beauty from the civic view point, are now being carried on, individual corporations spending hundreds of thousands of dollars this year for that purpose.

To combat the advance of the boll weevil, which has now begun to make such inroads on the cotton planters of the lower section of the State, alert business men and farmers throughout the county are already preparing changing to a large degree their farming methods, and by diversification of crops and particularly by the raising of fine hogs and live stock of other kinds for breeding and market purposes.

There has just been organized here Sardis Farms, Inc., with a capital stock of \$50,000, which will make a specialty of raising the finest pure bred Duroc Jersey hogs and in addition thoroughbred cattle, and the enterprise has connected with it some of the best and most progressive and experienced young business men of the city. This farm has as one of its herd boars a Duroc Jersey for which an offer of \$4,500 was recently declined. There are several other farms that are branching out into the Duroc Jersey business and propose to make it a go, and by means of having several different farms interested in producing high class hogs of the same type it is planned to have semi-annual big sales such as will attract buyers from all sections of the United States.

Union County citizens realizing that permanent good roads were not only greatly to be desired but that they were absolutely essential to the highest education, religious and social development of the people, early in the year voted over \$1,000,000 worth of bonds for building and maintaining highways, and with \$500,00 worth of bonds sold and cash in the bank, an extensive and splendid system of highways for the county is being worked out, surveying parties being busy in almost every township and actual work of topsoiling the road having been begun in several places, while the contract for work on the Appalachian Highway between Union and Whitmire will be let in the near future.

The City of Union has a very fine system of graded schools, while everywhere throughout the county better school buildings and equipment and better qualified teachers are being provided. The churches represent practically every denomination and have wide-awake, progressive pastors and congregations and are doing good work along religious and sociological lines.

A beautiful public library building, provided for by Andrew Carnegie's first gift for this purpose in South Carolina, contains many thousands of volumes and is an institution patronized to an almost amazing degree, which attests to its popularity and usefulness.

The climate of Union and its natural drainage make for its exceptional healthfulness, but to safeguard the public health in every way the city and county jointly have employed as public health officer Dr. J. W. Buchanan, who was Assistant State Veterinarian at Clemson College and prior to that served as government expert in the Panama Canal zone.

Union's population, including suburbs, is conservatively estimated at between 14,000 and 15,000 and growing, and the city and county through its well organized chamber of commerce, which employs a trained secretary, its city officials and its citizenship, extends a cordial invitation and welcome to all industrious homeseekers, who through their energy, thrift and enterprise will aid in the upbuilding of the city and county, and the spirit of cordiality and hospitality which has been a notable factor in the social life of the county for generations past, in spite of busier times will still be extended to them.

SOUTH CAROLINA STATISTICS.

Following is a statement of the taxable real estate in South Carolina for the year 1919:

Number of acres in farm lands—18,748,518; value, \$109,978,596; number of buildings, 247,130; value, \$24,103,739. Total value of rural property, \$134,082,335.

In towns and cities—Number of lots, 139,387; value, \$29,033,385; buildings, number, 92,880; value, \$44,713,500. Total value, \$73,746,835.

Total value, rural and urban, \$207,829,120.

As a matter of fact and exact statement, this represents perhaps less than one-tenth of the actual value. That is the thing that makes taxes appear high in South Carolina. The levy is higher than it should be because the property is returned at but a small fraction of its valuation. The government of South Carolina is administered as cheaply as that of any other State, in fact, it is too cheap, and the efficiency of service heretofore rendered has been in excess of what the State has paid for it.

CORPORATION CAPITALIZATION.

The Comptroller General's office records show that the total capital of the corporations engaged in business in South Carolina is \$204,890,602. Of this amount, \$41,472,046 represents foreign corporations. Since the enacting of the corporation license tax law, the following amounts have been paid to the State:

1905	\$42,429 48
1906	46,702 44
1907	52,769 03
1908	56,426 62
1909	61,027 27
1910	64,331 37
1911	70,800 49
1912	81,502 74
1913	90,078 33
1914	92,190 99

1915	94,435 71
1916	97,134 24
1917	103,137 18
1918	101,819 78
1919	107,288 74

There is no State income tax and no State inheritance tax.

The banking corporations represent \$12,710,087; the mills, \$66,-701,875; the building and loan associations, \$1,800,000; the fertilizer corporations, \$5,000,000. These figures were for the period up to January 1, 1919. Since that time there has been considerable development and expansion.

LIVE STOCK ASSESSED.

The records in the office of the Comptroller General show some interesting statistics for the year beginning January 1, 1919.

	Mules.	Horses.	Jacks, Etc.
Number	202,034	69,481	4,066
Value	\$13,363,886	\$3,884,583	\$128,042

(Under the heading "jacks" is included ponies and colts).

	Cattle.	Sheep.	Hogs.
Number	293,332	32,325	331,724
Value	\$4,708,980	\$48,488	\$1,443,721

	Dogs.	Autos.	Wagons.
Number	99,120	48,321	229,204
Value	\$659,952	\$9,766,437	\$3,838,946

	Pianos.	Jewelry.
Number	38,979	7,671
Value	\$1,554,308	\$199,713

(The average value of a hog in South Carolina, according to these figures, is about \$4, and the legal value of a dog, \$6.50. There are three times as many dogs as sheep and the value is $13\frac{1}{2}$ times as much. Yet I wish to state positively that the dog has no food value in South Carolina and I have never heard of its being a useful or productive farm animal.)

In the above statement, "autos" include trucks, bicycles and motorcycles; "wagons" include carriages, etc.; "pianos" include organs, phonographs, etc.

The gross receipts of the railway, telephone, telegraph and express companies operating in South Carolina during 1918 were \$14,087,574.

Value of all personal property—Household furniture, \$10,444,449; office furniture, \$838,054; farm implements and machinery, \$26,605,992; merchandise, moneys and credits, \$32,745,334. Total personal property, \$152,670,741.

The total amount of taxes, not including municipal, was as follows: For ordinary county purposes, \$2,730,861.32; three mill school tax, \$524,352.90; nine mills, State appropriation, \$3,625,739.52. Total value of all taxable property, \$402,859,947.

PROPERTY IN SOUTH CAROLINA.

Following are some statistics for 1919 from the records of the State Tax Commission:

Value of banking companies, \$35,951,955, assessed for taxation at \$15,099,905.

Value of trust companies, \$427,378.

Value of insurance companies, \$562,419.

Value of cotton mills (assessed for taxation), \$39,895,920.

Value of cotton seed oil mills (assessed for taxation), \$2,274,235.

Value of fertilizer plants (assessed for taxation), \$3,763,097.

Railroads, 3,776 miles of track; value of all railway property, \$48,307,218.

Value of water, light, power and heating corporations, \$9,447,425.

Value of street railway companies, \$1,364,639.

AVERAGE FOR COTTON.

Following is a statement of the average prices obtained for cotton in South Carolina as compared with the average for the cotton belt:

	1918	1917	1916	1915	1914	1913
General average.....	28.76	27.12	17.28	11.22	7.33	12.48
South Carolina.....	29.10	27.33	17.63	11.21	7.76	12.86

Likewise, following is a comparative statement as to prices paid for cotton seed:

	1918	1917	1916	1915	1914	1913
General average..	\$67.32	\$66.08	\$50.50	\$33.60	\$17.90	\$22.40
South Carolina..	68.03	69.45	54.98	36.50	20.80	25.70

Cotton seed crushed in the cotton belt from 1913 to 1918 is also an interesting study.

	1918	1917	1916
Total	4,322,499	4,251,680	4,479,176
South Carolina.....	401,882	338,443	261,101

	1915	1914	1913
Total	4,202,313	5,779,665	4,767,802
South Carolina.....	327,662	460,757	411,292

The assessed taxable values of the State were increased in 1919 about \$20,000,000 on mercantile establishments alone, by the work of the State Tax Commission.

The Federal Government's figures are that tobacco in 1918 brought 27 cents, and 30 cents in 1919. That was not true in South Carolina, where the price fell down more than 10 cents per pound. The Government figures are:

1918—Amount, 1,340,019,000 pounds; brought \$374,318,000.

1919—Amount, 1,316,553,000 pounds; brought \$394,966,000.

On the basis of prices that have recently prevailed, the total value of all crops produced in the United States in 1919 is \$15,-873,000,000, compared with \$14,222,000,000 for 1918; \$13,479,-000,000 for 1917; \$9,054,000,000 for 1916; \$6,112,000,000 for 1914; and \$5,827,000,000 for the five-year average, 1910-1914. These values represent gross production and not net returns to the producer. The value of live stock on farms in 1919 was \$8,830,000,-000, compared with \$8,284,000,000 in 1918; \$6,736,000,000 in 1917; \$6,021,000,000 in 1916; \$5,890,000,000 in 1914; and \$5,318,000,000 for the five-year average, 1910-1914.

The estimated acreage of wheat in the State sown to December 1 was 166,000 acres, as compared with 200,000 acres the previous year. The total acreage sown to rye was 16,000 acres last fall, as compared with 18,000 acres sown the fall of 1918. There appears to be an increase, however, in the acreage sown as a cover crop.

The average number of cords of wood used per farm in 1919 was 14, the value of same being estimated at \$4.40 per cord.

COTTON IN DEMAND.

During the five months of the 1919 cotton manufacturing season, ending with December 31st, 1919, there was a notable increase of the number of spindles in operation as contrasted with 1918. This is another proof of my oft repeated assertion that cotton is in demand. The number of spindles active in December, 1919, was 34,594,214, an increase of 936,254 over December, 1918. In the cotton growing States the number of spindles active in December, 1919, was 14,870,229, an increase of 481,272 over December, 1918. The Census Bureau reports that the number of bales in public storage on December 31st, 1919, was 4,145,563, or a falling off of 525,000 bales from the same date one year before. On public storage in the South were 3,923,004, which is all but 222,000 of the number in the entire United States, and a falling off of 443,000 from December 1st, 1918. From which I gather that there is less cotton and more demand than ever.

Here are some increases in prices within ten years:

Prime steam lard, per 100 lbs., 1909, \$9.40; 1919, \$27.50.

Prime oleo-stearine, per pound, 1909, 11½ cents; 1919, 22½ cents.

Corn, per pound, 1909, 3½ cents; 1919, 18 cents.

Cotton seed oil, per gallon, 1909, 36 cents; 1919, \$1.50.

Cotton, 1909, 11.60; 1919, 37 cents per pound.

According to the census figures, the cotton seed on hand, August 1st, 1919, was 23,725 tons, received from that date to December 31st, 2,868,795 tons. Amount on hand August, 1918, 40,438 tons; received prior to December 31st, 1918, 3,220,512 tons. The figures for South Carolina show, for 1919 and 1918, respectively: Received, 261,910; 228,004; crushed, 204,787; 154,430. Out of the 2,868,795 tons of the Southern crush, there were produced 712,326,165 pounds of crude oil, 459,540,356 pounds of refined oil; 1,070,192 tons of cake and meal; 654,535 tons of hulls; in addition to linters, hull fibres, etc.

The State Highway Department reports that there were 70,145 automobiles licensed in this State in 1919. The department has prepared to issue 90,000 licenses in 1920.

The Highway Department took charge of the licensing of motor vehicles immediately after its organization in 1916. For that year there were, as best as could be estimated, from the licensing done by the counties, 26,000 automobiles in South Carolina. For 1917 the registrations went to 38,000. In 1918 the total number of licenses issued was 55,000 and for 1919 the total has been 70,143. The Department feels sure that the registrations for 1920 will reach 88,000, or possibly 90,000. The total number will go far beyond 100,000 before the period of "saturation" is reached. In some States this is already reached, with an auto for about every half dozen of population, the increase after that point usually keeping step with the population increase.

Ohio has more automobiles than any other State, with New York second. South Carolina in 1919 had the fifth highest percentage of gain. The Southern agricultural States were the greatest buyers of automobiles last year.

FARM WAGES INCREASE.

According to investigations made by B. B. Hare, South Carolina Field Agent of the Bureau of Crop Estimates, United States Department of Agriculture, wages of male farm labor have more than doubled within the past five years.

Wages per month with board have increased from \$11.40 in 1915 to \$27 in 1919; while wages per month, without board, increased from \$15.80 to \$38.40. In the meantime, wages for day labor, for other than harvest work, with board, increased from \$0.60 to \$1.60 per day, and without board from \$0.75 to \$2.10 per day. This means that wages for male farm labor, when employed by the month, not including board, was 143 per cent. higher in 1919 than in 1915; while wages for day labor without board in the meantime increased 180 per cent.

Estimates of wages of male farm labor in South Carolina for 1915-1919 appear in table below:

YEAR	Average Wage Per Month.		Average Wage Per Day For Harvest Work.		Average Wage Per Day For Other Than Harvest Work.	
	With Board.	Without Board.	With Board.	Without Board.	With Board.	Without Board.
1919.....	\$27.00	\$23.40	\$1.94	\$2.40	\$1.60	\$2.10
1918.....	21.00	28.00	1.50	1.75	1.05	1.40
1917.....	18.00	25.00	1.20	1.45	0.93	1.18
1916.....	12.80	17.50	0.99	1.24	0.69	0.87
1915.....	11.40	15.80	0.93	1.15	0.80	0.75

BANKING RESOURCES.

From the beginning of the World War to the New Year, 1920, the banking resources of South Carolina have more than doubled. "This condition as reflected by the banks pervades every community of the State," says the Bank Examiner, Jas. H. Craig.

Ten years ago in a called statement as of November 16, 1909, the banks of this State showed deposits of \$43,162,969.36, with total resources of \$61,262,332.71.

In the June call, 1914, just previous to the late war, total deposits amounted to \$43,560,952.01, with the total resources of \$79,251,853.03.

In the last call as of November 17, 1919, deposits amounted to \$151,504,722.77, with total resources of \$188,994,760.38.

The number of State banks in 1909 was 244; in 1914, 324; in 1919, 357.

The total deposits on November 1st, 1918, were \$99,248,073.78, and in the same month of 1919 had grown to \$151,504,722.77, an increase of \$52,256,648 in one year.

What is true of the State banks is also true of the National banking institutions. The total resources of the National banks in South Carolina on September 12, 1919, were \$125,838,000. The deposits in National banks were \$74,036,000. The grand total of banking resources, therefore, was about \$315,000,000 in November of 1919.

Hon. A. W. Jones, chairman of the South Carolina Tax Commission, has furnished me with the following statement showing the increase in assessed value of real estate in South Carolina since 1910:

	1910	1914	1918
Farm lands	\$72,273,009	\$75,318,428	\$110,924,001
Real estate in cities and towns	56,796,343	68,150,364	73,314,711

The total number of South Carolina farmers applying for loans during 1919 from the federal land bank was 1,724 and the total amount of the loans applied for during the year was \$6,538,281, according to the annual report of the institution, which is now being made up.

The total number of applications for loans approved was 1,210 for \$3,938,772. Of this number 850 South Carolina farmers actually closed their loans for \$2,744,520 during the year just

passed. The average size loan approved in South Carolina during the past year was \$3,250.

SAVINGS DEPOSITS.

Savings deposits in South Carolina in November, 1919, aggregated \$35,000,000. This is a most excellent showing for the thrift of our people, an increase of \$6,000,000 over the savings deposits of one year previous.

A comparison of the amounts on deposit the last 12 or 14 years gives an illuminating chapter in the history of the progress of the people toward economic independence, nearly one-fourth of the total banking resources being savings. In 1906 and 1907 the deposits were approximately \$12,000,000 in total resources slightly below \$50,000,000. When the great war began the total savings deposits were \$17,119,888.21. In 1916 the savings were \$20,840,231.05. In 1917 the savings approximated \$35,000,000, but with the heavy drafts made on reserves with which to meet Liberty bond payments, this figure was cut to \$29,403,920.07 in 1918.

ACREAGES IN 1919.

There was an increase in the acreage of corn in 1919, the estimate being 2,340,000 acres, against 2,270,000 in 1918 and 2,313,000 in 1917. The value of the crop was \$36,169,000 in 1916; \$84,378,000 in 1917; \$72,101,000 in 1918 and \$73,757,000 in 1919, estimated.

The acreage in wheat fell off considerably, the estimated yield for 1919 being 1,836,000 bushels, against 3,376,000 in 1918 and 1,869,000 in 1919. The reports are that the sowing of wheat in the fall of 1919 was very light and our 1920 crop will be disappointingly small.

There was an increase in the production of oats in 1919. The yield was 11,730,000 bushels; in 1918, 11,000,000, and in 1917 it was 6,000,000 bushels.

The production of tobacco was 81,000,000 pounds in 1919; and in 1918, 60,410,000 pounds.

The ten-year average of sweet potatoes was 5,244,000 bushels; the 1919 production was 7,560,000; and in 1918 was 8,064,000 bushels.

The ten-year average of Irish potatoes was 820,000 bushels; in 1919 it was 2,295,000 bushels, and in 1918 it was 1,722,000 bushels.

The acreage in hay showed an increase from 260,000 to 285,000, and the production in 1919 was 269,000 tons, against 286,000 tons last year.

IN CONCLUSION.

The purposes and functions of this Department are expressed in the following section from the Code of Laws of South Carolina :

Section 855. "The Commissioner shall be charged with all work looking to the promotion of agriculture, manufacturing and other industries, cattle raising, and *all matters* tending to the *industrial development* of the State, with the *collection* and *publication* of information in regard to *localities*, *character*, *accessibility*, *cost* and *modes of utilization of soils*, and more specifically to the inducement of capital by the dissemination of information relative to the advantages of soil and climate, and to the natural resources and industrial opportunities offered in the State; that he shall also collect from the farmers and landowners of the State and list information as to lands, stating the number of acres, location, the terms upon which they may be bought; that a land registry shall be kept, and in connection therewith, from time to time publication shall be made, descriptive of such listed agricultural, mineral, forest and trucking lands and factory sites as may be offered to the department for sale or share, which publication shall be in an attractive form, setting forth the county, township, number of acres, names and addresses of owners, and such other information as may be helpful in placing inquiring homeseekers in communication with the landowners: Provided, That nothing herein shall be construed to give the Commissioner of Agriculture, Commerce and Industries the right to do scientific, educational or extension work in agriculture."

HAND BOOK.

In the year within which I have been Commissioner I have seen the great need for a handbook or text book of South Carolina which may be used to interest capital to locate in the State. Such a publication was made in 1882 by Maj. Harry Hammond, and this was followed in 1907 by Col. E. J. Watson's Handbook. Both of these publications are out of date and the supply long since has been exhausted.

I respectfully recommend, therefore, that the State Department be authorized to continue to collect the information and data and to publish a handbook or compendium of statistics and interesting facts about the climate, geology, history, geography, agriculture, and industries of the State.

It is unnecessary to give further emphasis to the statement that no time must be lost in endeavoring to induce capital to come into South Carolina to develop our latent resources, our idle lands, our unused forests, our navigable streams. Millions may be made in South Carolina, but the world must be told of it, and told in a convincing way.

In 1919 I engaged Mr. William Banks to undertake this work. He has collected a lot of information, but we considered that it would be advisable to postpone actual publication until the 1920 federal census figures are obtainable. Mr. Banks, in addition to collecting this information, has assisted me in work for the Cotton Association and has prepared numerous bulletins and other matter for publication.

PERSONNEL OF THE DEPARTMENT OF AGRICULTURE, COMMERCE AND INDUSTRIES.

(8th Floor Liberty National Bank Bldg. Telephone 390.)

-
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 - D. L. Smith, Inspector Feeds, Foods, Drugs, Oils, Seeds, etc. Walterboro, S. C.
 - T. G. Ellis, Inspector Feeds, Foods, Drugs, Oils, Seeds, etc. Chester, S. C.
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- Miss S. R. McMillan, Cashier. 1320 Bull St., Columbia, S. C. Tel. 2763L-2.
- Miss Martha Bonner, Clerk Marketing Division. 1412 Hampton Ave., Columbia, S. C. Tel. 1149.
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CHEMICAL DIVISION.

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(Note—Since the Body of This Report Was Submitted to the Printer, the Federal Government's Annual Statistics Show That South Carolina is the Second State in the Value Per Acre of Her Crops. Arizona, the State With the Highest Valuation Per Acre, Has Not the Extent or Variety of Agriculture That South Carolina Has, so South Carolina Has Really the Highest Average Productivity in the United States.)

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Eleventh Annual Report
OF THE
Commissioner of Agriculture
Commerce and Industries
OF THE
State of South Carolina
1919
LABOR DIVISION



COLUMBIA, S. C.
GONZALES AND BRYAN, STATE PRINTERS,
1920

LETTER OF TRANSMITTAL

*To His Excellency, the Hon. Robert A. Cooper, Governor of
South Carolina.*

Sir: In accordance with the provisions of Section 861 of the Civil Code, I have the honor herewith to hand to you the eleventh annual report, covering the work for the year 1919 of the Department under the law governing the Labor Division. The report is submitted for transmission to the General Assembly, in compliance with the provisions of the section aforesaid.

Respectfully,

B. HARRIS,
Commissioner.

REPORT

The total amount of capital invested in all industries in South Carolina in 1919 was \$201,237,230, an increase of \$8,785,833; the value of the annual product was \$355,181,322, an increase of \$29,012,184, which was a little more than 15 per cent. The total of wages paid in 1919 in all manufacturies was \$58,519,003, an increase of \$13,831,054, or 34 per cent. In 1918 the increase in the value of production was 27 per cent. and the gross increase in wages was 34 per cent.

The exact figures are as follows:

	1917.	1918.	1919.
Capital Invested	\$171,444,183	\$192,451,487	\$201,237,320
Value of Product.....	236,567,681	326,169,138	355,181,322
Wages to Employees...	34,075,174	44,687,949	58,519,003
(Not salaries)			
Average number of employees	83,726	76,772	81,807

While the gross increase in wages paid was 34 per cent., the per capita was only 31 per cent., as the total number of employees had increased in 1919 by 5,100 or 6½ per cent.

The average number of working days in 1919 was 252. The ice plants, cotton oil mills, fertilizer factories and other part time industries pull down that average. As a matter of fact the textiles operated 296 days out of the year, against 288 in 1918.

I refer the members of the General Assembly to tables II, III, IV, VII and XI. The figures there shown will be very illuminating, but for the benefit of those who haven't the time, I will here summarize these tables: No. II and No. III deal with textiles, the former being the December summary and the latter a summer census. This explains any slight variations. The "capital invested," Table II, refers to plants and other investments, in Table III to plants alone.

In Table II it is shown that there was an increase in 1919 of capital invested, \$16,310,626, in textile plants. In the value of annual product, \$11,702,883. Last year we reported an increase in the value of the product, \$70,000,000. But 1918 was an ab-

normal year, although 1919 was itself far from subnormal and was in excess of the pre-war normal as well as of 1918.

SOME TEXTILE FIGURES.

In table number III we wish to call attention to some interesting figures. The capital invested in plants increased \$12,109,549 last year. The number of spindles increased 33,120 and looms 382. But the number of bales of cotton decreased 93,398. This was due perhaps to mills going on finer goods after the close of the war. The value of the product, according to the December report, increased only \$11,702,883 while the wages increase of \$8,401,176 absorbed a great part of this. The value of the annual product increased \$61,308,168 in the December report of a year ago. This would indicate that the prices received by the mills had not increased very substantially in 1919, although the reduced number of working hours may have caused the curtailment of the value of the product. I present below a singular comparison for different periods of the same year for the value of the annual product:

	1918.	1919.	Increase.
August reports	\$185,957,414	\$209,931,238	\$23,973,824
December reports	217,210,077	228,912,960	11,702,883
	<hr/>	<hr/>	<hr/>
Increase	\$31,352,663	\$18,981,722	

In 1917 Commissioner Summers reported an increase of 37 per cent. in wages over 1916. Last year he reported an increase of 34 per cent., and now an increase of 31 per cent. makes a total of more than 100 per cent. within three years. In addition to this some enterprises pay bonuses and have taken industrial insurance for their employees, and this does not show in the wages statistics.

The value of the annual product of the textile mills in 1910 was \$69,473,038; in 1919 it was \$117,177,166; nearly doubled; the wages were \$11,853,088 in 1910 and \$36,677,388 in 1919.

The value of the product of the oil mills was \$12,950,048 in 1910, and the wages \$591,934; in 1919 the value of the product was \$39,633,724 and the total wages was \$1,947,304 or three times the amount ten years ago.

The value of the annual product of all industries in South Carolina ten years ago was just half the value of the annual product of the cotton mills alone in 1919. The total of all enter-

prises in 1910 was \$114,306,076; and for all in 1919 was \$355,181,322; number of employees in 1910 was 67,490; number in 1919 was 81,807; wages in 1910 totaled \$18,796,102, and in 1919 the total was \$58,519,003. Wages in the cotton mills alone were \$11,853,088 in 1910 and \$36,677,388 in 1919.

This shows that from the spring of 1918 to the fall months of 1919 the annual output had increased in value from \$185,000,000 to \$228,912,960. I will go back a little further to make clear the point I am illustrating. The advances in value of product of cotton mills for several years have been as follows:

December, 1912—\$73,000,000; August, 1913—\$80,616,182; December, 1913—\$84,785,152; August, 1914—\$84,609,000; December, 1914—\$80,942,893; August, 1915—\$77,900,000; December, 1915—\$75,000,000; August, 1916—\$91,800,000; December, 1916—\$109,400,000; August, 1917—\$134,950,000; December, 1917—\$155,900,000; August, 1918—\$185,950,000; December, 1918—\$217,210,000; August, 1919—\$209,931,238; December, 1919—\$228,900,000. From August to December and from December to August and then around again there appears to be a general ascending scale of value of output, the exceptions during the war proving the rule.

THE GROWTH OF A DECADE.

I have before me the second annual labor division report of the Commissioner, 1910, just ten years ago. The Commissioner, I am very sure, was very proud of the showing then made. Yet when I compare Table XI of his report: "Consolidated Summary of All Industries", with Table XI of my report, I am convinced that vast and yet unended changes have taken place in South Carolina. The following table will show what I intend to say:

	1910.	1919.
Capital Invested	\$155,889,333	\$201,237,320
Value of Product	114,306,076	355,181,322
Wages	18,796,102	58,519,003
Number Employed	67,490	81,807

In ten years the value of the product has trebled, and the amount paid out in wages has also trebled, an increase of \$40,000,000, while the number of employees has increased by 14,000. This shows in part that the labor saving machinery has increased the output more than it has the number of laborers.

HYDRO ELECTRIC POWER.

Another interesting study is with reference to the motive power of the mills. I have made up herewith a table which shows the great decrease in steam power and the increase in electricity generated by water:

	1910.	1918.	1919.
Horse power, water	29,670	37,003	27,510
Horse power, steam	76,986	69,011	64,853
Horse power, hydro-electric	41,958	83,130	89,737
Horse power, steam-electric	17,325	12,945	14,987

While in ten years the water turbine power actually decreased 2,140 horse power and the steam power decreased 12,100 horse power and the electricity generated by steam decreased 2,340 horse power, yet the hydro-electric power increased 47,800 horse power or more than 100 per cent. I would hail the day when no mill in South Carolina would use coal, but I fear this may be many years hence. The total increase in horse power from 1910 to 1919 was 41,138 horse power, and the manufacturing energy was increased from 3,846,117 to 4,947,644; looms from 96,281 to 115,130; bales of cotton consumed from 765,966 to 837,152.

COTTON SEED OIL INDUSTRY.

The cotton seed oil industry in 1919 showed a substantial gain in the value of the annual product, \$11,048,895, between 39 and 40 per cent. The increase in the total wages in this industry was \$912,402, which was nearly 50 per cent. over 1918 and 200 per cent. increase over 1917. The value of the product was just double what it was in 1917.

The figures for several years respectively of a seven-year period are as follows:

	Capital.	Value of Product.	Wages.
1913	\$3,881,756	\$12,980,851	\$664,250
1914	4,032,227	15,347,711	721,929
1915	4,095,137	14,407,338	693,558
1917	4,176,889	20,172,715	688,891
1918	4,425,897	28,584,829	1,080,024
1919	5,312,990	39,633,724	1,992,426

An interesting item is the fact that up to 1917 there is no report of any female laborers in cotton seed oil mills, while in 1918 they received \$15,438 in wages, and \$44,674 in 1919.

OUR PLACE IN THE SUN.

South Carolina was upon a firm basis industrially in 1919. There was no phenomenal bulge in the production or prices, but a steady increase and a very considerable increase in wages. When we consider what a truly wonderful year was 1918, we may well be grateful that there was no recession in 1919. But, even after the Armistice, even during the drab days when industry the world over was paralyzed by strikes and labor agitations, everything moved smoothly forward in South Carolina. For which all of us are profoundly grateful to a kind Providence.

While traditionally and fundamentally an agricultural State, South Carolina has the unique distinction of being first in the South and second in the Union in the extent of textile manufacturing industry. The relative importance of this industry to the life of the State is observed when I say that the value of the product of the textiles is, in round numbers, \$210,000,000, while the total value of all manufactured products, including textiles, is but \$355,200,000. There are 81,800 persons employed in industry in this State, while in textiles alone there are 51,400.

In the late months of 1914 it seemed that the textile industry in this State, as well as the crushing of cotton seed, the manufacture of lumber and the making of commercial fertilizers, was a drift on a sea of chaos. None of us likes to look back upon those times of disorder and discouragement, but for the sake of comparison it is permitted that we do to realize how much better is the situation of the State today with regard to the future. There is now no feeling of helplessness, and the people of South Carolina have their destiny in their own hands.

Then there were embargoes and declarations of blockades, the lanes of the sea were infested with raiders of war and the merchant marine trembled for its own security. The warring countries were clamoring for the constituent elements necessary for the conduct and prolongation of the war, but it appeared that the textile industry might receive a blow which would set it back half a century. The industry was saved. After months of anxiety and careful business management the textile manufacturers have come through and at last have come into the realization of a prosperity long merited and long deferred.

The first effect of the European war upon our finances, our agriculture and our industries was bad, as was to be expected. The whole of half of the world's industries can not be stopped

without the industries of the other half of the world feeling the shock. But the paralysis of our industries was temporary and our great system has begun to function in a tremendous manner and will continue to do so.

WORKING OF CHILDREN.

A feature of mill life in which the entire public has been interested is the working of children. I am proud of the record that South Carolina bears, and of the distinction which she has. There is not in the South another State which has made more in regulatory and protective legislation. Our laws compare favorably with the most approved methods in any State. The particular pride that this department feels is in the fact that during the year 1918 there were in South Carolina several inspectors who came to see how the laws were being applied. It was with great gratification that I was told by these inspectors that they found our regulations being observed most commendably throughout the State and that this department was doing its work as well as any State that they had visited.

In December, 1918, the United States Senate put a rider into the appropriation bill to put a tax of 10 per cent. upon all goods made in mines or mills where children under 16 are employed. When this became a law, the South Carolina department stated that it would assist in its enforcement, although as a matter of fact I feared at the outset that this is ill considered and special legislation, and that its effect will be not to injure the industry or to be of help to the child, but rather to disturb relations that now seem to be increasingly satisfactory.

The observation of this department is that there are kinds of work in mills that can be given to children, especially in school vacation periods, that will not be harmful to them. While the general purpose of the proposed regulation may be proper and commendable, it is not sufficiently elastic to be really as humane as it appears.

South Carolina leads the South in the textile industry. The following figures show the tremendous importance of the manufacture of cotton, and the table is prepared to show comparison with the figures of the first year that the regulatory laws affecting the industry were put under this department.

	1908.	1918:	1919.
Spindles	3,846,117	4,914,524	4,947,644
Looms	96,281	114,748	115,130
Bales Cotton	765,996	930,540	837,152
Tons Coal	429,309	592,833	525,693
Value of Products	\$67,401,332	\$185,957,114	\$228,912,960
Horse Power	165,949		207,087
Wages	\$12,418,442		\$36,677,000

I believe that the year 1920 will be our greatest, with reference, of course, to the permanent values of other industries.

COTTON CONSUMED BY TEXTILE PLANTS.

Compiled from August, 1919, Textile Reports.

	3-4 to 11-16.	11-16 to 15-16.	Total.
Abbeville	12,800	.....	12,800
Alken	42,349	.....	42,349
Anderson	93,824	2,320	96,144
Bamberg	1,250	.....	1,250
Charleston	6,755	350	7,105
Cherokee	18,438	.....	18,438
Chester	37,800	.....	37,800
Chesterfield	3,640	.....	3,640
Darlington	6,961	.....	6,961
Dillon	7,200	.....	7,200
Edgefield	1,600	.....	1,600
Fairfield .....	.....	3,000	3,000
Greenville	120,693	6,073	126,766
Greenwood	42,345	.....	42,345
Kershaw	3,200	.....	3,200
Lancaster	20,600	.....	20,600
Laurens	16,164	2,700	18,864
Lexington	7,089	.....	7,089
Marion	1,580	.....	1,580
Marlboro	5,000	8,000	13,000
Newberry	33,100	.....	33,100
Oconee	11,591	2	11,593
Orangeburg	5,820	.....	5,820
Pickens	31,493	.....	31,493
Richland	49,243	2,500	51,743
Spartanburg	124,349	7,165	131,504
Union	54,907	.....	54,907
York	39,813	5,450	45,263
Total	799,604	37,547	837,152

NO. BALES OF COTTON CONSUMED FROM AUG., 1918, to AUG., 1919.

Location.	Name of Mill.	Bales Cotton 3-4 to 11-16.	Bales Cotton 11-16 to 15-16.
Abbeville	Abbeville Cotton Mills	9,600	.....
Calhoun Falls	Calhoun Mills	3,200	.....
Bath	Alken Mills	5,033	.....
Graniteville	Graniteville Mfg. Co.	16,000	.....
Langley	The Langley Mills	13,163	.....
Clear Water	Seminole Mills	4,403	.....
Warrenville	The Warren Mfg. Co.	3,750	.....
Anderson	Anderson Cotton Mills	6,000	.....
Belton	Belton Mills	10,000	.....
Belton	Blair Mills	420	.....
Anderson	Brogan Mills	6,000	.....
Honea Path	Chiquola Mfg. Co.	5,500	.....
Anderson	Conneross Mills .....	.....	.....
Anderson	Equinox Mills	7,500	.....
Anderson	Gluck Mills .....	.....	1,230
Iva	Jackson Mills	5,000	.....
Anderson	Orr Cotton Mills	10,000	.....

Location.	Name of Mill.	Bales Cotton 3-4 to 1 1-16.	Bales Cotton 1 1-16 to 1 1-2.
Pelzer	Pelzer Mfg. Co.	25,850	
Pendleton	Pendleton Cotton Mills		1,090
Autun	Pendleton Mfg. Co.	2,200	
Anderson	Riverside Mfg. Co.	4,910	
Anderson	H. C. Townsend Cotton Mills	2,900	
Anderson	Toxaway Mills	2,782	
Williamston	Williamston Mills	4,762	
Bamberg	Bamberg Cotton Mills	1,250	
Charleston	Chas. Asb. & Rub. Co.	2,650	350
Charleston	Royal Mills	4,105	
Blacksburg	Broad River Mills	2,000	
Cherokee Falls	Cherokee Falls Mfg. Co.	2,541	
Gaffney	Gaffney Mfg. Co.	6,649	
Gaffney	Globe Mfg. Co.	1,500	
Gaffney	Hamrick Mills	2,500	
Gaffney	Irena Mills	748	
Gaffney	Limestone Mills	2,500	
Chester	Baldwin Cotton Mills	15,000	
Chester	Eureka Cotton Mills	3,500	
Lando	Manetto Mills	4,300	
Great Falls	Republic Cotton Mills	12,000	
Chester	Springstein Mills	3,000	
Cheraw	Cheraw Cotton Mills	3,640	
Darlington	Darlington Mfg. Co.	3,461	
Hartsville	Hartsville Cotton Mills	3,500	
Dillon	The Dillon Mills	7,200	
Edgefield	Addison Mills	1,600	
Winnaboro	Winnaboro Cotton Mills		3,000
Greenville	American Spinning Co.	12,000	
Greenville	Beaver Duck Mills	3,500	
Greenville	Brandon Mills	13,500	
Greenville	Camperdown Mills	2,500	
Greenville	Conestee Mills	5,000	
Greenville	Dunean Mills	2,000	1,600
Greer	Franklin Mills	2,500	
Greer	Greer Mfg. Co.	3,464	
Greenville	Judson Mills		4,473
Fountain Inn	Katrine Mfg. Co.	2,000	
Greenville	Mills Mfg. Co.	4,000	
Greenville	Monaghan Mills	9,800	
Greer	Pelham Mills	3,416	
Piedmont	Piedmont Mfg. Co.	23,125	
Greenville	F. W. Poe Mfg. Co.	8,500	
Greenville	Poinsett Mills	4,500	
Greer	Prospect Mills	488	
Greenville	Saluda Mfg. Co.	1,000	
Greenville	Vardry Mills	1,400	
Greenville	Woodside Cotton Mills	18,000	
Greenwood	Greenwood Cotton Mills	10,000	
Greenwood	Grendel Mills 1 and 2	13,045	
Ninety Six	Ninety Six Cotton Mills	3,300	
Greenwood	Panola Cotton Mills	2,500	
Ware Shoals	Ware Shoals Mfg. Co.	13,500	
Camden	Hermitage Cotton Mills	1,600	
Camden	Wateree Mills	1,600	
Kershaw	Kershaw Cotton Mills	1,600	
Lancaster	Lancaster Cotton Mills	19,000	
Goldville	Banna Mfg. Co.	2,000	
Clinton	Clinton Cotton Mills	7,836	
Laurens	Laurens Cotton Mills	3,821	
Clinton	Lydia Cotton Mills	2,507	
Laurens	Watts Mills		2,700
Lexington	Lexington Mfg. Co.	3,091	
Ratesburg	Middleburg Mills	2,737	
Lexington	Saxe Gotha Mills	1,261	
Marion	Marion Mfg. Co.	1,580	
McColl	Marlboro Cotton Mills	5,000	8,000
Whitmire	Glenn Lowry Mfg. Co.	8,000	
Newberry	Mollohon Mills	5,100	
Newberry	Newberry Cotton Mills	17,000	
Newberry	Oakland Cotton Mills	3,000	
Clemson	Clemson College		2
Newry	Courtenay Mfg. Co.	3,286	
Westminster	Oconee Mills Co.	2,000	
Seneca	Seneca Cotton Mills	2,600	
Walhalla	Walhalla Cotton Mills	3,705	
Orangeburg	Orange Cotton Mills	3,600	
Orangeburg	Santee Mills	2,220	
Easley	Alice Mills	3,000	

Location.	Name of Mill.	Bales Cotton 3-4 to 11-16.	Bales Cotton 11-16 to 11-2.
Easley	Easley Cotton Mills	7,200	.....
Easley	Easley Cotton Mills No. 2	2,700	.....
Liberty	Easley Cotton Mills No. 3	1,200	.....
Easley	Glenwood Cotton Mills	6,741	.....
Central	Issaqueena Mills	3,590	.....
Cateechee	Noris Cotton Mills Co.	2,400	.....
Pickens	Pickens Mills	4,662	.....
Columbia	Columbia Mills Co.	22,332	.....
Columbia	Glencoe Cotton Mills	5,000	.....
Columbia	Pacific Mills	17,500	2,500
Columbia	Palmetto Cotton Mills	1,416	.....
Columbia	Southern Aseptic Lab.	2,995	.....
Arlington	Apalache Mills	2,490	.....
Arcadia	Arcadia Mills	5,000	975
Spartanburg	Arkwright Mills	7,000	.....
Spartanburg	Beaumont Mfg. Co.	7,130	.....
Chesnee	Chesnee Mills	.....	1,280
Clifton	Clifton Mfg. Co.	14,278	.....
Glendale	D. E. Converse Co.	7,000	.....
Fingerville	Cohannet Mills	2,000	.....
Cowpens	Cowpens Mfg. Co.	1,507	.....
Spartanburg	Drayton Mills	.....	2,400
Enoree	Enoree Mills	8,455	.....
Fairmont	Fairmont Mfg. Co.	2,090	.....
Wellford	Fort Prince Spinning Co.	720	.....
Woodruff	W. S. Gray Cotton Mills	.....	2,500
Inman	Inman Mills	4,800	.....
Mayo	Mary Louise Mills	1,680	.....
Pacolet	Pacolet Mfg. Co.	17,795	.....
Spartanburg	Saxon Mills	6,000	.....
Landrum	Shamrock Damask Mills	.....	.....
Spartanburg	Spartan Mills	10,520	.....
Tucapau	Tucapau Mills	7,200	.....
Spartanburg	Valley Falls Mfg. Co.	907	.....
Greer	Victor Mfg. Co.	7,367	.....
Whitney	Whitney Mfg. Co.	6,065	.....
Woodruff	Woodruff Cotton Mills	4,345	.....
Union	Excelsior Knitting Mill	1,800	.....
Union	Monarch Mills	20,000	.....
Union	Ottaray Mills	2,500	.....
Union	Union Buffalo Mills Co.	27,107	.....
Jonesville	Wallace Mills	3,500	.....
Rock Hill	Aragon Mills	4,214	.....
Rock Hill	Arcade Cotton Mills	2,400	.....
York	Cannon Mfg. Co.	4,000	.....
Clover	Clover Cotton Mfg. Co.	.....	2,650
Fort Mill	Fort Mill Mfg. Co.	5,189	.....
Rock Hill	Hamilton-Carhart Mills	5,000	.....
Carhart	Hamilton-Carhart Mill No. 2	2,000	.....
Clover	Hawthorne Spinning Mill	.....	2,800
Rock Hill	Highland Park Mfg. Co.	2,500	.....
York	Lockmore Cotton Mills	1,500	.....
Rock Hill	Manchester Cotton Mills	3,880	.....
York	Neely Mfg. Co.	3,000	.....
Bowling Green	Reynolds Cotton Mills	680	.....
York	Travara Cotton Mills	700	.....
Rock Hill	Victoria Cotton Mills	2,000	.....
Rock Hill	Wymojo Yarn Mills	2,750	.....
		799,604	37,550
		799,604 Short Staple.	
		37,550 Long Staple.	
		837,154 Grand Total.	

JOHN GOLDEN IS PLEASED.

"The World's War brought about many economic changes in the industrial life of our country, some of them of a marvelous character," says John Golden, president of the United Textile Workers of the World.

"Previous to the commencement of the war, dating back to the inception of the nation, low wages, long hours of labor, poor sanitary conditions and child labor were all looked upon as closely allied to the textile industry.

"The chief aim and ambition of the father and mother, who had spent their lives working in the mills, was to open up a new field of endeavor for their children, rather than see them consigned to the same struggle from childhood to manhood and womanhood for what after all was merely a bare existence.

"It was a common expression to hear these parents say, when asked the question: 'Are you going to put Mary in the weave room or the card room, or John in the spinning room?' 'I hope to get them work outside of the mill if it is possible to do so.'

"A change for the better in the working conditions in the textile industry in some particular parts of the country had been gradually showing itself before the war, but the changes were only coming very slowly, and in most all cases were being brought about through the efforts of the organized textile workers.

"Hours of labor had been reduced from sixty per week to fifty-four in some States. Some changes in sanitary conditions had been secured. A slightly higher standard of wages has been brought about, the first two principally through legislation, and the latter by organized effort."

For several years the mill managers of the South have been doing their best to improve the condition of their employees, and they required no such whip as that of the strike leaders which forced results in Fall River, Mass. It is said that an economic revolution has taken place in that textile community with its 112 manufacturing plants. The change in working conditions is expected to attract better workers.

The New York Journal of Commerce has this to say of conditions in the South:

"In the South the results have been of a different character from that seen elsewhere, in that they have run to the trial of systems of industrial democracy and an enlightened form of welfare work not duplicated in any other section of the world. The

textile industry before the war was such a low-paid industry that ambitious young people were shunning it. Today the spirit is that more schools must be devoted to the training of the best workers of the country so that the textile industry of America shall lead in theory and practice and that it shall retain its place as a most attractive and well paid occupation for any American youth or adult."

All of which is quite true. The mill workers of the South now need but one thing: a variety of enterprise in which they may find employment. We need diversification in our manufactures. It is true we have diversity in weaves: damasks, outing, automobile tire cloth, mercerized, gingham and numerous others. But we need an influx of small plants of the "cutting-up" trade, or we need for our large textiles to set off a loft corner where garments can be made and thus appeal to the ambition and imagination of the mill workers. Give them continually something more difficult to do.

TEXTILE.

AMERICA GOING TO TOP.

A writer in *The Journal of Commerce* declares that the United States is rapidly taking away from Great Britain supremacy in textiles. Manchester and Bath will no longer be greater industrial centers than Fall River and Lowell. And it is of great interest that South Carolina is the second textile State in the Union, Massachusetts alone having more spindles. South Carolina as shown by our report has 4,914,524. There are 175 mills in the State, the value of the annual product is \$217,210,077; one-fifth of the population of the State is dependent upon the industry, and the presence of the mill centers contributes to the general development of surrounding agricultural terram.

The cotton mills of South Carolina have had a most successful year, and the managers have been exhibiting a commendable spirit in the manner in which they are sharing their profits, both in the increase in wages and bonuses, and especially in the attention being given to the improvement of domestic condition in mill communities.

Remembering something of mill settlements in this State in the early 80's, I wish to say that the conditions today are as far removed as the North pole is from the South. With some reluctance, but in order to give point to what I am saying, I recall that not only were the housing methods of those days most prim-

itive, but the class of people that was attracted by such an environment was shiftless, lawless, and almost without morals. The family that entered a factory village in those days did indeed "burn its bridges behind." Whether the imputation was unjust, I will not attempt to say, but the occupants of a mill village were all regarded as persons of a lower moral plane than any other white citizens. But—what a vast change has come, and most reverently do I thank God for it.

The best school buildings in South Carolina are in the mill communities. There are no better Y. M. C. A. buildings or Community Houses. Some of the prettiest churches and most enthusiastic Sunday schools are found in the mill towns. It is wonderful. The people of South Carolina may well be proud of their mill workers.

The Piedmont Manufacturing Company is this year putting \$100,000 into a school house and next year will build a handsome high school. The Pelzer Manufacturing Company this year completed its beautiful high school. At Ware Shoals there is an industrial community which will compare favorably with any other in the whole United States. More than a quarter of a million dollars has been spent here in the last few years in the effort to make the people better and happier. Not all of the mill communities have yet reached that degree of advanced interest, but the Republic Mills at Great Falls permits its employees to have free electric current for fans and cooking and washing apparatus. At Ware Shoals is a modern laundry and an ice factory, both of which reduce the cost of living. The dairy at the Ware Shoals mill, and for the use of the employees, is reported to me to be the best in the State, on any farm.

The Commissioner wishes to commend to the Legislature the report of W. Aug. Shealy, State Supervisor of Mill Schools. This will be found in the annual report of the State Superintendent of Education, and but for the duplication would be given *ab extenso* here. I consider that Mr. Shealy is doing excellent and sympathetic work.

I am informed that in the town of Greer, the teachers in the regular public schools were being paid at the rate of \$60.00 per month. The Victor Mill and the Greer Manufacturing Company, both within sight of the town itself, were paying at a rate of \$100.00 per month. The town schools were compelled to keep up with the mill school.

The new inspector of mill schools, W. Aug. Shealy, was for six years superintendent of the Olympia Schools in Columbia. Here were taught several hundred pupils and there is a fine modern building with extensive playgrounds. Mr. Shealy in 1919 visited 100 mill schools in South Carolina.

THE COTTON MILL BOY.

The other day I read an article about a little twelve-year-old Nebraska farmer boy who was killed in a wheat field when three big mules ran away with a self binder. There wasn't much to the story. It merely stated that because his father couldn't get enough help he let the little fellow drive the binder while he tried as best he could to keep up with the shocking. Something scared the mules and, of course, the little boy couldn't hold them and in the struggle he fell upon the binder platform and when they extricated his pitifully mangled form he was dead.

While, of course, my heart was touched by this sad little story, yet I could not but think of the little boys in South Carolina. We don't hear of any such accidents in our cotton mills. If such things happened the reformers from such States as Nebraska (and Iowa) would seek to close the doors of our textiles. After all, I believe the little boy in our cotton mill has no harder work than the little boy on the farm—perhaps it is not as hard—the hours are not so long, and he does get a pay envelope, all his own.

NO STRIKE LOSSES HERE.

I was asked on the 18th of December by the New York Sun to give a statement as to the cost of strikes to the people of South Carolina. It was with no little gratification that I replied that the actual cost was negligible. It would be impossible for me to say how much strikes in New York had cost the people of South Carolina, but strikes in local plants have not been expensive.

I am told that the year of 1919 will be noted in history for its strikes, perhaps including the one in the United States Senate which has been the fountain spring of unrest in this country. It is estimated that, due to strikes, the amount of money lost to labor in wages will reach about a billion of dollars and the loss to industry will be twice as great. Three billion dollars lost—due to ill feeling between capital and labor.

We of South Carolina may well be proud of our State and profoundly grateful to a kind Providence. Not one per cent. of the lynchings of Illinois; not one-thousandth of one per cent. of the \$100,000,000 loss in wages in New York State alone because of labor unrest. That's fine for South Carolina, I'll say.

The question that immediately comes up is this: "Who must pay for the losses caused by strikes?" Evidently the losses must be made up somewhere. They are—and they are made up from the pockets of the average citizen. Enough money must be taken out of his pockets to pay for the quarrel, and he is but an innocent, protesting, and disgusted bystander.

In Russia, we are told, ten per cent. of the population has caused all of this deviltry. The great inert mass of the people has to suffer for the few. It is the same with our strikes. The ultimate consumer is the ultimate goat, if I may so speak. He will be faced with an inexorable "H. C. L." whose demands are more insistent because there have been strikes.

In South Carolina there were only two strikes reported in our industrials, one in a group of mills in the Horse Creek Valley section of Aiken County, and another in a group of mills at Rock Hill. The former lasted four or five weeks, during which time, I am informed, the machinery was given a good going over. The strike at Rock Hill was of short duration.

There was a strike of street car employees in Spartanburg during the summer and the citizens were put to some annoyance.

All of these strikes were settled without friction, and, I think, with increase in wages. But the sum total of the loss of wages would hardly be \$100,000, and the loss to industry was not so serious as in other States. It was with no little pride, therefore, that I wired the New York Sun:

"Textile workers comprise large percentage of our employed population. Their condition of mind and surroundings of life very much improved in last ten years. Two strikes this year, of short duration, easily settled, I think, by our State Board of Conciliation. Our State population of two million engaged principally in farming and textiles has felt the effect of general strikes because of advanced cost of living, but not otherwise. In general, our people are more contented than ever, and if we were not dependent upon outsiders for many of our commodities, we would be better off. South Carolina has abundant water power for new enterprises which would find it economical to come here

to locate and forsake centers of unrest and agitation. Our climate permits outdoor work all the year. Millions being spent here in new enterprises, good roads, and construction work. Our ports being opened to shipping to South America. The one fault with our people is that they are prone to stop work when they get a little bit ahead. We have matured plans to defeat boll weevil with diversified agriculture. Therefore result of strikes in this State is negligible except for the effect upon the poor people outside of organized labor must work harder or suffer. Labor Unions here usually make sensible demands and get what they want by showing moderation."

And I pray that there will be no labor disputes in this State in 1920.

MILL BOYS IN THE WAR.

In South Carolina 307,350 men were examined for the draft. Of this number 239,000 were found fit for military service, a percentage of 77.8. I am told that in the early days of the war some were rejected because of the literacy test, rather than for physical reasons. The average for the United States was 78.6 per cent., or 8 per cent. above South Carolina's average. The highest in the United States was in Wyoming, where the physically fit average 87.2. Therefore in man power resources South Carolina ranks high among the States.

It might surprise detractors of the South, especially those who frequently refer with great asperity to the domestic conditions in our mill towns, to tell them that some of the best fighting men of America went from the cotton mills of South Carolina. They were boys who had grown up in the mill work. Far from being undernourished, undersized, or "under" anything else, they were excellent soldiers and served faithfully and courageously on the Mexican border and in France.

Among the mill towns that sent National Guard units into the service are Pelzer, Williamston, Anderson, Olympia, Brookland, and the units from Fort Mill, Rock Hill, Union, Spartanburg and Greenville had a large percentage of mill boys.

That they discharged their duty fully, capably, and honorably, is proved by the fact that the First South Carolina Regiment, more than 50 per cent. mill boys, did the heavy preparatory work which resulted immediately in the breaking of the Hindenburg line at Bellicourt and the freeing of Belgium from the murderous

grasp of the invader. That they discharged their duty well is shown by the fact that in Flanders there are white crosses over graves where cotton mill boys, heroes all, are asleep. There were some mill boys who came home to get the most prized decoration of the whole war—the congressional medal of honor, in addition to numerous citations from American and British officers and crosses from the French government.

Then there were the mill boys drafted into the 81st Division and into numerous other units that went away. They made good soldiers, all of them, and the service flags of the mill towns at home had many stars, occasionally one of gold, but never a star that was not bright in honor and courage.

THE DOFFER BOY LAW.

The enforcement of Federal statutes relating to child labor legislation has been placed in the hands of the Internal Revenue Department, the head of which is a South Carolinian, D. C. Roper. As this statute was aimed at the South, where industrial conditions really are not as unwholesome as they are in the sweat-shops of Northern cities, I appreciate that the responsibility upon Mr. Roper is therefore all the greater. The Inspectors of the South Carolina Department were directed to give every assistance to the Federal Inspectors.

I have been in correspondence with Mr. Roper, but up to the time of closing this report, December 31, he has been unable to give me any figures for South Carolina. His inspectors had not concluded their visit to this State by the middle of December.

While it would be improper to quote unauthorized newspaper statements, yet I am so sure of their correctness that I will report that the Federal Inspectors were greatly gratified with conditions that they found in South Carolina. The Federal law levies a tax of 10 per cent. on the net earnings of plants employing children under 14 years of age, or between 14 and 16 for more than eight hours, in the production of commodities entering interstate commerce.

South Carolina for now nearly fifteen years has had the most thorough and far reaching mill employment regulations, and the aid of the Federal government really was not needed in South Carolina. While there was quite a lot of impudence in the manner in which this legislation was drawn to hurt the South, yet as a matter of fact it will probably result in showing to the world

that the South is not and has not been as cruel as painted and that as soon as we emerged from the impoverishment caused by the War of Secession, we began to observe and to make changes in the condition and environment of our employed persons.

Newspaper carriers and others who have more disagreeable work and less protection, are exempted from the operations of the Federal law, as are chore boys on farms, etc. It is an effort to legislate out of business that healthy, happy, and American lad, the doffer boy.

INDIGO DYES.

At the breaking out of hostilities in Europe in 1914 the textiles of this country were cut off from the German dyes and it was thought that this would cause a great annoyance. The late Commissioner Watson endeavored to get the Federal government interested in resuming the growing of indigo in this State, that natural dyes might take the place of synthetic. In the meantime American ingenuity succeeded in perfecting a very good counterfeit of European dyes. This has become quite an industry in this country, but there is a fight on in Congress over the tariff on the importation of German made dyes to compete with American product. While natural dyes cannot compete with the artificial, the Commissioner begs leave to suggest that the indigo dyes of South Carolina so famous half a century ago might yet be used to advantage by American manufacturers in order to give more stability to their product, that it might the more successfully compete with the foreign product, the entire secret of which does not appear to have been learned.

ANNUAL REPORT OF FACTORY INSPECTORS

Hon. B. Harris, Commissioner of Agriculture, Commerce and Industries, Columbia, S. C.:

We beg to submit to you this the eleventh annual report of the State Factory Inspectors, including also the report on manufacturing industries in South Carolina for the year 1919.

There have been fewer complaints and fewer prosecutions during the past year for violations of the labor laws than in any previous year. This, we believe, is to be accounted for by the following:

First: The activity of this department in former years in enforcing the law.

Second: By the splendid co-operation given by the management and operatives in industrial institutions in observing and enforcing the law.

Third: The increased wages paid operatives made it easier for them to live without the help of the young children, so that the temptation to work them under age was, to a certain extent, removed. Elsewhere in this report will be found a record of special investigations and prosecutions made during this year.

It was remarkable to the inspectors to see the manner in which several hundred mill boys came back from France and settled down to their occupations. There were service flags in every mill town and some bore gold stars. The mill people remained loyal to their government and were proud of increased production of output of their mills. They gave liberally to all war causes.

We have observed that the mills are spending hundreds of thousands of dollars to improve the appearance of their surroundings and to give their employees better living conditions. But the inspectors feel that there is yet much that could be done to improve sanitary conditions. We respectfully suggest that in addition to stronger remedial legislation, with heavier penalties for non-compliance, the Commissioner should invite the State Board of Health to send an agent with the inspectors of this Department to inspect some of the mills where the sanitary conditions are abominable, in the mill and on the general area.

Another matter of considerable importance is the number of hours of labor per week. We report that the mills this year voluntarily reduced the number of hours, and this is entirely satisfactory all around. Except this, we respectfully suggest that the action taken by the mills should be validated and confirmed by the Legislature in the form of an Act. The 55 hours in which the mills now operate could be better arranged if the looms were not permitted to run while the operators are at dinner. The mills, of course, wish to make production, but we believe that little is gained by this method, for the weaver comes back to his loom frequently to find his cloth in bad condition. This makes him lose time, causes him to feel dissatisfied and the mill does not gain as much production as it expects. This seems like a small matter, but it is like a tack in a shoe, a continual annoyance which prevents the people from being entirely comfortable and contented.

STATISTICAL TABULATIONS.

As is required of us by the law we have prepared tabulated information on all industries of the State. It is gratifying to call attention to the enormous increase in the value of annual products of the various branches of manufacture. The report shows a satisfactory increase in the amount of capital invested. While this part of our report has been gotten up as required and the tabulation may be found attached to this report, we have not prepared it without great difficulty on account of the shortness of the time allowed. We copy from our report of one year ago the following:

"Although we have this year been able to obtain the information to furnish tables of results as appended to this report, we are again confronted with the problem of not having sufficient time to gather the information desired. The present law requires the Commissioner to mail to all manufacturing industries a 'schedule report,' calling for certain information before the 1st day of November of each year, and the reports are required to be returned by the 5th day of December. This allows us but one month to mail and receive these reports. Therefore, we again, as we have in each preceding year, respectfully recommend that the proper amendment be made to this law to change the date of mailing and receiving of these schedules one month earlier. This

change of date would greatly aid this department in compiling a more complete and accurate statistical report."

We again urge that this change be made.

The inspectors have been informed of the long hours and hard work of elevator girls in office buildings in cities in this State. We have taken this matter up with the Attorney General and he advised us that, intolerable though the conditions might be, we could not take legal action. We are having a bill prepared to extend our authority.

Reference was made in this report of 1917 to the fact that this department had assisted the agents of the Federal government, Department of Labor, in putting into operation the Keating-Owen child labor law. During the first part of 1918 this law was in effect and this department co-operated with the Federal agents in carrying out the provisions of this Act. It was found to be mutually beneficial to the State and the Federal department to have this co-operation. Whenever the Federal law had been complied with the State law had been practically complied with. The new Kenyon law, which places a tax upon the products of mills employing children, has become operative during the year 1919 and it has been our pleasure to co-operate with Federal inspectors sent to this State. They have not filed their written reports, but stated to us informally, but emphatically, that they found South Carolina well regulated and the regulations well enforced.

There have been several changes among the inspectors this year. Mr. Bonner was transferred to the Commissioner's office. Mr. Holland was transferred to the bureau of weights and measures. Mr. Groeschel returned from the army to the mill inspection work, but later received a very flattering position and resigned. While with the inspection force, he represented the Commissioner at the annual meeting of labor commissioners of the United States. This meeting at Madison, Wis., was well attended. Mr. Groeschel made a report for the Department and gave a talk on mill inspection in this State. He was elected vice-president of the association.

We feel that there is yet prosperity ahead of the mills of the State, for the managers appear to take a warm personal interest in the employees, and this means capacity production.

We appreciate the assistance of the clerical department of the office in compiling our statistical report.

CONFUSION CAUSED BY 55-HOUR WEEK.

The law of the State as it now stands allows textile establishments to work their employees sixty hours per week but not over eleven hours in any one day.

Some time about January 1st, 1919, the Textile Association of South Carolina agreed to adopt a 55-hour week, and most of the mills in the State made the change to a 10-hour day, five hours on Saturday.

Many citizens of the State became confused and thought this 55-hour week was according to the State law, which was not true. Many complaints were sent in to this department alleging that certain mills were working the operatives over-time. Upon investigation it was found that they were working over 55 hours per week, but not over 60 hours. Hence there was no violation of the State law and the complaints were necessarily dismissed.

SANITATION.

Good many mills have never installed sanitary drinking fountains, and have no running water in the mills for drinking purposes. These mills are using water buckets and dippers and the buckets have no covering. When I came across the above conditions I recommended the use of a water cooler, so the water could be enclosed and the people would have the use of a spigot. In connection with the spigot I suggested using the sanitary drinking cups.

The toilets in the mills have caused a good deal of discussion between the superintendents and inspectors.

The superintendents gave as a reason for the toilets being in bad condition the scarcity of labor. Some of the large mills only employ one negro to attend to all the toilets and this causes a good deal of neglect.

INVESTIGATIONS AND PROSECUTIONS.

Complaint having been received that the Watts mill at Laurens was working over-time, an investigation was made. It was found that party making report was using a time piece different from the mill clock. The time differed and hence the complaint was considered unimportant and therefore dismissed.

July 2 complaint was received that Union-Buffalo Mills at Union were working negroes as sweepers. Investigation showed

that the negroes working in the mill were scrubbers. There was no violation of the law.

A complaint against the Victor Mfg. Co. of Greer, S. C., for working children too long without allowing them time to eat their dinner, also claimed the toilets were in bad condition.

On June 18th an investigation was made concerning the above complaint and the facts as set forth in the complaint were not substantiated. In taking up the matter the superintendent's assurance was given that conditions would be thoroughly considered and other labor laws would be given his strict personal attention and all violations avoided. There was no evidence of any violation of the law and the case was dismissed.

Complaint was received that Grendel Mills No. 2 was working negroes with the women and children.

Upon investigation it was found that a good many negroes were working in this mill, but they were being used as scrubbers and this was in accordance with the law, and the complaint was dismissed.

On June 10th a complaint came to this office from the Issaquena Cotton Mills, Central, S. C.

The complaint charged the mills with running hot water through their humidifiers, thereby making the temperature disagreeable. They were also charged with working over-time and having open toilets in the village.

An investigation was made of the charges as set forth and found that regarding hot water being run and sprayed through humidifiers was a mistake, as the mill had dug a very deep well and the water used came from same and was found to be very cool. The temperature of the mill was kept pretty low and, in fact, better than one would expect.

Regarding the toilets of the village, the mills had ordered new fixtures to be installed on arrival.

Assurance was given that the toilets would be put in first-class condition.

There could not be anything found concerning the charges of running over-time.

On February 3, in response to a telephone call from the superintendent of the mill at Warrentonville, S. C., two inspectors went to Warrentonville. We found that a strike had been staged for 3 o'clock that afternoon. Inspectors offered the services of this Department to both the operatives and to the mill management,

to see if anything could be done to adjust the difference. It was found that neither side cared at that time to consider any proposition to settle the matter.

On January 4th, 1919, a warrant was sworn out against the Superintendent of Western Union Telegraph Co. at Columbia for violation of the Act prohibiting the working of boys under 14 years of age as messenger boys. The superintendent claimed that he did not "know" that these boys were under 14. The law reads, "whoever shall knowingly employ." The magistrate dismissed the case.

INVESTIGATION OF MERCANTILE ESTABLISHMENTS.

Every department store in the several cities were inspected one or more times. Where the inspections were made the women said they had no complaint to make as they were being well treated. Plenty of seats are provided for them either in front or behind the counters and they are allowed the time to sit down.

The assurance was given by the owner or manager that there was no objection made at any time when the clerks wish to rest.

RECOMMENDATIONS

We recommend that the Act known as the "Messenger Boy Act," number 405 of the Acts of 1912, be amended by leaving out the word "knowingly", so that Section 5 of said Act shall read as follows:

Sec. 5. Any owner, superintendent, manager or overseer of any telegraph, telephone or messenger company, or office or of any theater, concert hall or place of amusement, or any other person thereof or connected therewith, who shall employ or suffer or permit the employment of any child or person contrary to the provisions of this Act, shall be guilty of a misdemeanor, and for every offense shall, upon conviction thereof, be fined not less than ten dollars nor more than fifty dollars, or be imprisoned not longer than thirty days, in the discretion of the court.

We recommend that the number of hours per week fixed heretofore by statute be changed to 55 in order to conform to the custom in many of the mills at present.

We recommend that the Act relating to sanitary conditions in mills be given more effectiveness by increasing the penalty to be imposed in a court of competent jurisdiction whenever it shall be found that a mill is violating sanitary laws.

We recommend further:

That all manufacturers be required to file statistical schedule reports required by law on November fifth instead of December fifth, as it is practically impossible to collate and publish the statistical data in time for the opening of the General Assembly under present conditions.

That the "Messenger Boy Act" be amended to regulate the employment of children in mercantile establishments, newsboys, employees at refreshment stands and places of amusement, so that children under fourteen years of age should not be allowed to work later than eight o'clock at night or before six o'clock in the morning.

That all Acts applying only to cotton textile establishments be amended so as to apply to asbestos, jute and other factories of like nature.

That a straight ten-hour work day for any woman or child under sixteen years of age in any mercantile establishment, places of amusement, restaurants or cigar counters be provided for.

That a suitable law be passed for a minimum scale of wages for women.

To require the proper safeguarding of all dangerous machinery and beltings in all manufacturing plants and work shops, and that all manufacturing plants be equipped with fire escapes, where persons are employed above the ground floor.

That provisions be made for vigorous inspection of bakeries and confectionery shops, and for enforcement of strict regulations as to sanitary conditions.

That manufacturing plants and workshops of all descriptions be required to make confidential reports of accidents occurring in their plants or shops to the Commissioner upon blanks to be furnished for that purpose, these reports, however, being used simply for statistical purposes in collated form.

That a suitable law be passed requiring medical examination for contagious diseases of employees in all manufacturing plants.

G. H. LUCAS,
S. C. GROESCHEL,
Inspectors.

STATEMENT FROM MILLS

AIKEN COUNTY.

The mills of Aiken County are the Aiken Mills at Bath, the Langley Mills at Langley and the Seminole Mills at Clearwater, all under the management of George E. Spofford; the mills at Graniteville and Warrentonville under the management of Jacob Phinizy. As to the improvements during the year at these five plants, the Department has a report upon only the Spofford group of mills.

The most notable improvement in these mills is in the sanitary arrangements, new closets, bubble fountains and other modern equipment. Every house in the community has been repaired. Twenty dwellings were enlarged and improved and the drainage of the community greatly improved. The Bath hotel was completed. This is an addition connecting the two large boarding houses. The dining room will seat 100 comfortably. Wooden fences removed and hedges planted. Sycamore trees set out wherever needed.

The school buildings were overrun and next year a \$30,000 school plant will be built for Bath and Clearwater. The people of Bath, Langley and Clearwater went over the top in the Red Cross drive, and in the Baptist church drive subscribed more than \$4,000, although called upon for only \$2,000; and the mill people of Bath took \$11,600 of the Victory bonds.

"Bath was indeed fortunate not to lose one of her sons during the recent European War," writes Mr. H. B. Grice. "She sent more than fifty of her young men to serve their country. Many were wounded, but not one killed. A most unusual record. We believe every one of these soldiers and sailors have been discharged. There has been no public reception for these returned soldiers, but we showed our appreciation of their services by going way over the top in the Victory Loan. We were to get \$9,000. We got \$11,600.

"Of course the welfare work started in 1918 goes on. Miss Sudie Beck, our community worker, is carrying this work on very successfully. Her biggest undertaking in this line was the handling of a community fair for Bath, Clearwater and Langley. This fair was held at Bath and was successful beyond the

most sanguine expectations. The field day meet for the school children of the three villages—which was the first of its kind ever held here—was also a success. Because of the rivalry caused by this meet—Bath won—no doubt Langley and Clearwater will be looking for revenge, and will insist on another meet next year.

“A baby show was also conducted in connection with the fair, and was the first step toward having a clinic at Bath for the benefit of these three villages.

“The club room, community house and moving picture hall are all thriving, and the different organizations under the general supervision of Miss Beck are very much alive and active.”

There are three active churches in each community; there is a school improvement association by means of which teachers and pupils are brought closer together. The playground continues to be popular. The mill operates day and night. Wages increased once during the year.

ANDERSON COUNTY.

Anderson is one of the great textile counties of the South. There were some changes in the personnel of the management of some of the corporations. Jas. D. Hammett retired from the presidency of the old Anderson mill, whose common stock had come up from 10 cents on the dollar to par value during his administration. B. B. Gossett and associates, operating the Riverside and the Toxaway mills, bought the Pendleton mills and also the Cohannet mills in Spartanburg County. All of the mills in Anderson County are reported to have had a prosperous year.

Capt. B. B. Gossett, who acted during the war as State fuel administrator, a very trying and thankless \$1-a-year position, is the head of the Riverside, Toxaway, Pendleton and Cohannet Mills, and is associated with his father, Jos. P. Gossett, in the management of the Brogon and Williamston Mills. For this group he reports briefly:

“Even now I only have the time to say that we are making many permanent improvements at all of our plants. For instance, we have just repainted all of our cottages inside and out, and installed electric lights in each cottage. We have also put in a modern street lighting system in each village, and at

Riverside and Toxaway we are furnishing all of our operatives city water without charge, stint or limit.

"At Brogon we have installed a modern and up-to-date filtering plant, which is going to be a great thing for our people, and next spring we plan to install a well equipped laundry in each village, which you will readily appreciate will be a wonderful convenience. We have also recently installed an ice plant in each of our villages, and it has been our policy to sell our operatives their requirements of ice at absolutely cost, which figures approximately 20c per hundred. We also have in mind many other improvements and conveniences, but I will not attempt to go into any further details at this time."

A notable advance in community comfort was the building of a laundry by the Belton Mill, of which Capt. Ellison A. Smyth is the president. This mill also built a large and handsome community house, equipped with every modern convenience, and the social center for both the men and the women of the community. The mill employs a competent director who is always on the premises. Some of the principal streets have been paved and sidewalks built. An additional reservoir tank adds to the water supply through the community.

Pelzer, the first of Captain Smyth's numerous successful big undertakings, has a new high school, the fourth school erected and in use. The high school fills a much needed place in the educational work of this progressive community. The mill has completed an auditorium with a seating capacity of 800, to be used for public gatherings, lyceums, etc. The steam laundry has been such a success that the size of the plant was tripled. Cement sidewalks and cement pavements were laid on the principal streets and the water supply very largely increased. The people of Pelzer were very proud when the 30th Division came back from France, bringing their own National Guard company which assisted in breaking the Hindenburg line. Pelzer was also well represented in the 81st Division and the citizens have done their part in every drive and every other patriotic undertaking.

The Orr Cotton Mill had a good year. The president, Jas. D. Hammett, reports that one of the greatly appreciated improvements of the year was a swimming pool, cost \$7,000, size 38 by 167 feet, with depth from 12 inches to 7 feet, which is enjoyed in connection with the playground activities. This mill already had modern churches and schools.

The Orr Cotton Mills are installing a complete sewerage system at a cost of approximately \$50,000. This places water and sewerage connections in each house in the mill village. "We have during the present year installed electric lights in every room in every house in the mill village," states Mr. Hammett. "We have arranged with the Red Cross Association to furnish a trained nurse for the mill village. The expense of the nurse will, of course, be borne by the mill. A number of soldiers have returned to the community. We are proud of them."

The Conneross Mill in the city of Anderson is engaged in the manufacture of asbestos. Small mill with no village. Does an exceptionally high class of work.

CHARLESTON COUNTY.

There are three mills in the city of Charleston—the Charleston Asbestos and Rubber Company; the Charleston Bagging Manufacturing Company, and the Royal Mills, of which Capt. F. W. Wagener is president. H. A. Maas, treasurer of this company, says of the year's activities and progress:

"1. We have made considerable improvements in our factory houses such as sewerage, toilet, water supply.

"2. We have improved our operators' homes very much.

"3. We have remodeled practically all of our machinery in putting up all kinds of safety devices, etc.

"4. We have very good public schools, a church with services in the Sunday school, also night school.

"5. The city is now building a very large public school within 500 yards from the mill, almost directly opposite. We have another very large public school which is about five blocks from the mill, and a church which is directly opposite the mill. We might add that this church has a kindergarten, reading rooms, hot and cold water bath, all for the benefit of our operators. Of course, outsiders as well.

"6. Our mill is in close proximity of the Y. M. C. A. of the Y. W. C. A. and churches of all denominations, two military academies, two high schools, both for male and female, theatres, vaudeville houses, several moving picture houses, and public parks. We might add that the Hampton Park is located on the street leading to the mill, water reservoir, the best seashore in the country, the Isle of Palms, with a beach about ten miles long. In fact we have everything that a mill operator could wish for.

"7. We also have a good many savings banks.

"8. We are pleased to advise that we have been fortunate in not having any of our men killed during the war. We had, however, three wounded in the war.

"9. We pay bonuses, and have been during the past year, to operators making full time. We also carry an insurance policy with the Metropolitan Life Insurance Company of New York for the benefit of the beneficiary for those who might pass away while in our employ to the amount of \$500 to \$1,000, and furnish a trained nurse the time of sickness.

"10. During the flu epidemic we operated our own hospital at our own expense for the benefit of our mill hands."

CHEROKEE COUNTY.

The Irene Mills at Gaffney manufacture and finish high grade damask and towels. Of the year's improvements in the mill village, H. D. Wheat, president, reports:

"All houses have been lined with composition board, making them both attractive and very comfortable. Both interior and exterior of all houses have been painted, each house receiving a different treatment. The village has been improved generally by planting hedge plants and flower beds.

"A new sewerage system has been installed by The Standard Cement Construction Company, consisting of their standard sanitary closets.

"For the past several months night school has been conducted and considerable interest manifested in this. Our employees have given generously to every cause of the government, Red Cross work and others, also have purchased a fair amount of war savings stamps.

"As a whole, we believe our employees are satisfied with conditions at our plant, and it is our intention to continue improvements from time to time."

CHESTER COUNTY.

Chester County is the seat of the great model and modern textile home community, Great Falls, as well as of the Baldwin, Eureka and Springstein mills in the city of Chester. The Eureka and Springtein mills have built top-soil roads, built several concrete bridges, hired community nurses to care for the

health and comfort of the employees. The Eureka is building several new houses and a new school.

As to progress at the Baldwin Mill, the manager, E. R. Lucas, reports:

"The most outstanding feature of the work has been the erection of two modern hotels, Baldwin Inn for men and the Mary McClure Inn for women. These furnish a home with all conveniences and many pleasures for mill workers who must board, offering especial advantages to girls away from home, all at a moderate expense.

"A second feature is the reorganization of the night school so that one teacher gives her entire time to this work, holding classes in the morning and afternoon for night workers and others who cannot come in the evenings, teaching adult illiterates in the homes, and holding classes in the evenings. This takes the place of employing several teachers to hold night classes in addition to their regular work in day school, and is found to be more successful in every way.

"The boys of the community have in the past year been completely organized into clubs known as Baldwin's Best Boys, senior, intermediate and junior, with a total membership of 51. The activities of these clubs include a Bible class, athletics, a male quartette, and general assistance in all welfare work. A night worker who has had experience in the army gives three afternoons each week to the leadership of the junior club, which includes those up to 14 years of age.

"Sewerage has been installed in part of the village, and is to be put in the remainder of the houses in the spring. The sidewalks are also being paved.

"Bonuses are paid for proficiency.

"Baldwin has paid all its assessments for war activities, the company making up any deficiency in the popular subscription. The people patronize the savings banks and building and loan associations in town, and are encouraged to do this by the mill."

Of the Republic Cotton Mills, Robert S. Mebane, the president, says that there are no outstanding features this year. "We are constantly making improvements of various kinds for the comfort and pleasure of our operatives, and we have probably gone further in this direction than any other manufacturing plant in the country. You doubtless know that the Republic Cotton Mills

stand at the very top in this respect, and is so recognized universally."

In a general description of this plant, the secretary of the Chester Commercial Club writes: "Great Falls, a manufacturing town on the banks of the Catawba River, in the southeast section of the county, which has grown and developed by leaps and bounds, and is destined some day to be the Fall River of the South. Here is one of the largest hydro-electric developments of the Southern Power Company, and hard by are two similar plants.

"With unlimited power at hand and with ample quantities of the fleecy staple produced on the fertile acres that lie around Great Falls every circumstance and condition entering into the profitable manufacture of cotton is to be had. The town already has two large cotton mills, and the outbreak of the war and the consequent conditions that have come about as respects the difficulty to secure machinery and the high price of the same are all that have prevented this number from being doubled or trebled.

"With the return of normal conditions Great Falls will resume her stride, and it is not unlikely that within five years from ten to a dozen textile plants will cluster about the pretty little town.

"For civic pride and spirit Great Falls is surpassed by no town in the country; and as a consequence the town boasts of beautiful streets, a pretty park, a large and beautiful school building, handsome churches, and above all a spirit of confidence and assurance that only the successful and growing town has. Much of this is due to the Mebanes—Messrs. Robert S. and H. B.—who are at the head of the Great Falls mills, and who take a prominent and active part in all community endeavor.

"Watch Great Falls! The community that once enjoyed only a mournful kind of greatness by virtue of the fact that old Fort Dearborn (which was about all of the original Great Falls) lacked only one vote of being chosen for the site of the country's military academy, is not depending upon dead and almost forgotten traditions, no matter how interesting, for its place in the sun; but with hustle and determination is forging rapidly ahead along the lines stated."

DARLINGTON COUNTY.

A remarkable innovation was introduced in November, 1919, when the Darlington and Hartsville Mills, through C. C. Twitty,

president, announced that these mills would be put upon the profit-sharing plan.

While under treatment in Richmond several months ago Mr. Twitty read John Leach's book on "Man to Man" and was so impressed that he entered upon a study of Industrial Democracy. From this research ideas began to assume shape and he went to New York and further pursued his study. So out of the sick room of a busy man, whose time and thought has been and always shall be for the advancement of the big communities of workers under him, has come the profit-sharing plan now so successfully being practised in the Darlington Manufacturing Company and The Hartsville Cotton Mill, the pioneers in "establishing industrial democracy in South Carolina."

The employees of the Hartsville Cotton Mill, as compensation for services rendered and to be rendered, in addition to their fixed salaries or wages, shall be paid in the aggregate a percentage of the net earnings of this company for the half year ending March 31, 1920, which shall be equal to 50 per cent. of said net earnings. The net earnings shall be fixed and determined by deducting from the gross earnings all expenses, taxes, depreciation and other charges, together with the legal rate of interest on the capital invested, and after deducting 20 per cent. of the remainder for a sinking fund to provide for capital dividends in lean years, and the amount of the net earnings so determined in the absolute discretion of the board of directors shall be final and conclusive upon all parties.

The amount of said percentage of the net earnings as so determined shall be distributed as soon as practicable to all employees in the service of the company for the six months ending March 31, 1920, in proportion to the salaries or wages paid to them respectively during the said period. These three things, i. e., a just and proportionate share in the profits, an appropriate share in the responsibility of the management, and a knowledge of the year's results, constitute a real partnership. "It is my conviction that nothing more and nothing less than this is just to labor, and nothing less and nothing more is just to capital," says Mr. Twitty.

It should be thoroughly understood that this does not alter the routine organization of the plant, nor affect the position and regular authority of the overseer and of the superintendent. The administrative organization of the mill remains as it was.

Workers are subject in every way as formerly to the direction and discipline of department heads and of the mill management. Individual complaints and differences should be taken up the same way as usual with the overseer and the superintendent. "However, in case you do not get what you consider justice and satisfaction, you are then free, without any fear of a 'come-back' or a discharge, to go to your representative on the board of operatives, who will take the matter up for you with the board of operatives and with the superintendent, and finally the matter may go on appeal to the board of management in which the workers have an equal voice," says Mr. Twitty. "By this arrangement all possibility of injustice and dissatisfaction is done away with. If you don't get what's coming to you, it's your own fault. In the Hartsville Cotton Mill we now have real industrial democracy. By our own fair dealings and faithfulness let us make ourselves worthy and our plant a safe place for this new democracy. We are called upon to live for this ideal of democracy, and to work it out with patience and courage to a successful conclusion. By so doing, we shall serve the cause of labor, order and humanity in all the world."

Living conditions in the Hartsville Cotton Mill approach the ideal in industrial community life. There are one hundred and twenty-five nice homes; each has recently been remade and repainted inside and out. At every home there is flowing artesian water. The best of social, educational and religious advantages prevail. Each home is neatly kept, the lots are tidy and clean and each home has a vegetable garden in which a variety of table delectables are grown, which help to put down the high cost of living.

Sewerage is being installed in every house in the Hartsville Mill; every house is being remodelled; Y. M. C. A. being improved and a swimming pool projected. The company will build an ice plant and sell ice at cost.

GREENVILLE COUNTY.

Greenville is the center of the activities of the Victor-Monahan group of mills, including the Victor at Greer, the Ottaray at Union, the Walhalla mill, the Wallace at Jonesville, the Greer mill, the Seneca mill and the Apalache at Arlington. Of this organization Wm. E. Beattie is treasurer and T. M. Marchant vice-president. This group of mills employs to supervise its

welfare activities that veteran worker, L. P. Hollis. So much progress has been made in 1919 that Mr. Hollis cannot go into details, but makes the following summarized statement:

"Six Y. M. C. A. buildings at our smaller plants.

"Two swimming pools.

"Installed electric lights in two villages.

"Water in three villages.

"Topsoiled the streets in four villages, and generally overhauled and painted most of the cottages in our villages.

"At the Walhalla Plant we are installing 500 new looms and building 20-odd operatives' cottages.

"Have put in two laundries for the convenience of our people.

"Have greatly added to the educational forces at work amongst our operatives."

The F. W. Poe Manufacturing Company, Greenville, S. C., during 1919 installed sewerage, electric lights, city water and fire protection. They employed a trained nurse and welfare worker, general department store was opened. The employees received bonuses. A community house was established, also Y. M. C. A. hall. They have two school buildings, day and night school, two churches.

"Our entire plant is in excellent physical condition. The machinery has been provided with equipment for making a wide range of plain and fancy goods, the standard of quality for the product being very high. A favorable reputation has been established and our goods are given preference by the most critical buyers.

"Many improvements have been made in the mill village, which now covers about eighty-five acres. We are just completing the erection of about 50 new and very attractive houses for operatives, and a handsome new home for the superintendent. Every one of the cottages in our village of 260 homes have private bathrooms and latticed back porches and are supplied with electric lights, Paris Mountain water, and sewerage. These improvements, with the churches, schools, social halls, libraries, athletic fields, etc, make our mill village attractive and comfortable for the people who are working for us. The steam-heated mill school has actually outgrown itself. The building is taxed to its utmost capacity and we were obliged to use two of the rooms in the library to accommodate the overflow. Eight teachers are employed and more than 400 children are enrolled. We em-

ploy separate teachers for night vocational schools, also welfare workers and trained nurse. Our village is well equipped with ample fire hydrant protection, with a paid fire department. Many beautiful gardens with flowers and shrubbery—all homes surrounded with well-trimmed hedges.”

The domestic, economic and religious life of the people of Piedmont has always been of the highest order. One of the mills is in Greenville and the other in Anderson County. Wm. E. Beattie is president of the group. The following statement is from S. M. Beattie, vice-president:

“We have added a partial sewer system and some septic tanks have been installed in the village during the past year.

“An addition to the Lyceum building for men and boys has been made. In this building now we have an up-to-date, fully equipped gymnasium, bathrooms with hot and cold baths, 108 new sanitary steel lockers. A gymnasium teacher is employed two nights a week.

“More than 200 new books have been added to the libraries in the Women’s Building and the Lyceum during the year, and all the first-class magazines and papers are on the reading room tables.

“A first-class amateur band has recently been organized.

“We have begun work on a modern high school building at an estimated cost of \$70,000. Several teachers have been added this season and much new equipment put in. All church and Sunday school work has been aided and encouraged.

“A village newspaper is furnished and placed in each home monthly free of cost, wherein thrift and systematic saving of all kind is kept before our people. Quite a number have opened saving accounts in the banks.

“Our people have responded nobly to every call made during the war, and in every case went ‘over the top.’ Out of a village of 2,100 one hundred employees of the company answered the call to arms, many of whom went over seas. Most of these boys have returned and with few exceptions have upon their bodies one or more marks of the combat. Not a man from Piedmont was killed in battle or died of wounds.

“Several miles of paved streets have been laid and many sidewalks paved.

“Cash prizes have been paid by the company for the best flower and vegetable gardens. This with the large lots provided

with each house, encouraged the people to do their best along these lines. The operatives canned from these gardens during the year 9,472 quarts of vegetables and fruit for winter use, and in addition fattened about 130,000 pounds of pork; kept 162 cows, and reared and kept 6,100 chickens.

"This year the Red Cross, with the assistance of the mill, has furnished a trained nurse who will work here under the direction of the Red Cross."

The South Carolina State Press Association in the summer of 1919 visited the Judson Mills at Greenville, of which B. E. Geer is president, and found this a remarkable plant, making a beautiful line of goods with the agency of an educated, well-paid and contented working people. The year's activities are summed up by Brown Mahon, the assistant treasurer:

"We are pleased to report that all mills in this section have made excellent progress during the past year along welfare and educational lines. We have not yet installed sewerage in all of our houses, but we expect to do this as soon as conditions will permit. We have installed running water in all houses, and, as you know, every house is electrically lighted.

"We have bought and are now operating a co-operative store where our employees can buy groceries and other necessities of life at cost. This plan is working very satisfactorily, and we consider it a splendid investment as well as a big thing for employees.

"Regarding bonuses, we are now figuring on a method of reimbursing regular employees for faithful service. We expect to pay such rewards just before the Christmas holidays so that all the employees can enjoy themselves at that time.

"We are getting material on the ground for a new Y. M. C. A. building, and expect to begin active construction in the spring. Our Community building has been changed so as to accommodate two more classes in school, and all features such as swimming pool, reading room, shower baths, etc., which were installed last year are now in operation.

"We have two good churches, the Baptist and Methodist, which are doing splendid work among the employees, and the Baptist church has recently been enlarged. Plans are under way for an additional enlargement of the Baptist church in order to take care of the social side of church life.

"We encourage thrift among our employees, and we have made arrangements with a local bank to handle a savings account through our office, making it unnecessary for employees to go to the city to handle their savings accounts.

"During the war all drives were contributed to very liberally by our people, and we believe that cotton mill operatives as a whole subscribed more than their quota to all war causes.

"Our war service flag contains ninety-eight stars, two of which are gold. One of the dead was drowned when the Otranto was sunk, while the other died of influenza while in camp."

Of the Camperdown, one of the older mills of the State, the treasurer, Allen J. Graham, reports:

"We have overhauled all the houses in our village; installed sewerage in every one of them; put in concrete gutters through all our streets; planted trees, shrubbery, etc. Wages have been increased several times during the year. We are running a night school, and have two churches in good condition in the village. We also have had a nurse employed for several years, who gives her entire time to the physical welfare of our people."

The American Spinning Company of Greenville, of which J. H. Morgan is president, reports:

"For the benefit of our employees, we have during the past year considerably enlarged the Baptist church, are now building a new Methodist church, have put down cement sidewalks and sand-clay roads throughout the village, fitted up a cottage for a nursery, added three additional school rooms, and made some other minor improvements. We are now planning some new houses, in order to give our employees more house room.

"We notice each year development in the religious and domestic life of our people. They were very liberal in their gifts to the war causes. We think that all of our boys who were in the army have returned, save one who was killed in action; and none who have returned were seriously wounded. We maintain a community house, and our welfare worker in charge does a great deal toward developing the domestic life, and is a great help to the people during illness in the homes, etc."

"During the year 1919 we have established and gotten under way a Y. W. C. A. building which is proving a great asset to the village," reports the Dunegan Mill of Greenville. "We have installed electric lights in all of the village houses; we have taken

over and are running the general store for the benefit of the operatives, selling goods to them as at near cost as it is possible to do. We have established a playground for the children; we have employed a graduate trained nurse and have installed a first aid room within the mill."

John W. Arrington, Jr., president of the Union Bleaching and Finishing Company, states that the year has been one of continued progress. The employees are well taken care of and were liberal toward all war causes. The following is a reprint article from the news columns of New York "Daily Trade Record" of October 18, 1919:

"In the Union Bleachery conditions of work are excellent. The plant is light, unusually clean and well ventilated. The work is confined to carded yarn fabrics, such as cambric, muslin, pique, pajama checks, etc. The color and finish are fully up to any standard for similar constructions. Every pint of water is thoroughly filtered, and the water is as clear as crystal.

"In the dye house, imitation chambrays are made; dyed directly from the grey. Besides this, some good piece dyeing on bleached base is done, and done well.

"But the labor conditions are the most interesting. The operatives are self-respecting, careful and industrious, they and the owners understand each other; enjoy each other's confidence. It is difficult to see how very serious labor troubles can arise so long as both sides take a human viewpoint."

Augustus W. Smith, formerly of Abbeville, has been one of the strong figures among the Southern mill men who have come to the front in the last decade. He is the president and treasurer of the Brandon and Poinsett Mills in Greenville County and the Woodruff Mills in Spartanburg. He states clearly and succinctly his plan of encouraging the mill workers: "We are improving the homes of our operatives in every way possible. We have nice halls for their meetings, and we take the position that we prefer putting all this kind of work through our churches, and not have other organizations like the Y. M. C. A. to carry it on for us. We believe in the people doing for themselves, guided by our ministers and other religious workers. We have found this very successful. There were about sixty young men that went to war from our three mills, and only one killed outright, and three or four wounded. We are going to start soon to pave all our

streets. In the last year we have built about forty new residences, and made them very attractive."

LAURENS COUNTY.

During the year 1919 the Watts Mill at Laurens passed under the management of Geo. M. Wright, who had made a success of the Banna Mill at Goldville. Mr. Wright reports that he has been connected with the mill such a short time that he is unable to give many details of the work. "In connection with our school work this mill has a kindergarten and also a community house with a trained community worker. There has also been established during the past year a co-operative store, and the company is now installing electric lights on its streets and in the homes, as well as making other minor improvements to the homes and streets in the village."

Of the year at the Banna Mill, Mr. Wright reports: "During the past year this company has completed a handsome school building for its employees. The second story of this building is arranged for an auditorium and fitted with opera chairs. There has also been provided a sufficient number of deep wells throughout the village which furnish an abundant supply of pure water. Wages have increased during the year about 40 per cent., and a large number of our help are saving money."

Of the Laurens Cotton Mill the president is N. B. Dial, now U. S. Senator, and the manager is Walter S. Montgomery, head of the Spartan Mill group. M. L. Smith reports for the Laurens Mill:

"We are rebuilding our mill village entirely. All the old tenements, which are inadequate and to a degree obsolete in type, are being demolished and new houses replacing them. These new houses are of the bungalow type, having electric lights, water and are being equipped for sewerage and baths. The houses will be modern in every respect.

"Old street lines have been ignored and new streets are being laid off in accordance with plans made by a landscape engineer. This development is to include several small parks, etc.

"We also have employed for full time a graduate nurse, and we find this to be a very valuable part of our welfare work.

"We furnish wood and coal to our employees at approximately first cost, plus the expense of delivery.

"Wages have been increased, as will be noted by figures on Return. In fact mill operatives' wages have been so greatly increased that they do not any longer stand at or even near the bottom of the ladder of wages.

"We intend also, with the rebuilding of our village, to erect an adequate and modern welfare building. This, however, will not be done until next year.

"In addition to graded school, which is conducted by the city in our village, we operate a kindergarten, employing two teachers; and in addition to this we have engaged for half time, in conjunction with the State Board of Education, a special teacher for illiterates. Our churches are prospering and it has been our plan to endeavor to direct much of our welfare activities through the churches. We contribute to their financial support.

"Our operatives subscribed to Liberty Bonds, and War Savings Stamps during the term of the war; and we are now planning to renew activities relative to Thrift Stamp savings. We have already received necessary literature from the department to put this into effect. Our employees also contributed remarkably well to the Red Cross, Y. M. C. A. and similar campaigns during the war. In some instances nearly every operative would make a contribution, and many were very liberal.

"Many of the young men in our employ were in the service during the war—about 40. They made good records at the front and several were wounded, but we are glad to say no one from our mill was called upon to make the supreme sacrifice.

"The health of our community is good. We, of course, suffered severely from the epidemic of influenza last winter, but since then we have not suffered from epidemics."

LEXINGTON COUNTY.

In Lexington County are the Saxe-Gotha and the Lexington Mills at Lexington and the Middleburg Mills at Batesburg, all under the same management with the French Broad at Asheville, the Valley Falls in Spartanburg, the Palmetto at Columbia, and four other mills in the North.

The Palmetto Cotton Mills, located at Columbia, S. C., has just changed its plain looms to Draper automatic looms, and is now equipped entirely with these automatic looms. The mill has also taken on a welfare superintendent, and is endeavoring to be of assistance to its employees in the matter of schools and

churches. Also, improvements have been made throughout the village in the matter of sewerage and electric light, and the mill management has contributed to the various war causes, Red Cross, etc., and subscribed for a liberal quantity of Liberty Bonds.

Saxe-Gotha Mills, near Lexington, S. C. The mill has built a new engine and boiler house and has installed a new engine, increasing the power capacity of the plant. Changes have been made in the line up of the machinery and the old plain looms replaced with Draper automatic looms throughout. Much time, attention and money has been spent on improving the appearance of the building, and the working conditions for the help, both on the mill buildings and the houses. This mill has also contributed to the war charities and subscribed to the Liberty Loan issues.

Lexington Manufacturing Co., Lexington, S. C. This mill has made some considerable improvements in the mill building, and has installed Draper automatic looms to replace the plain looms discarded. It has also been in the front rank of contributors to war charities, local church subscriptions, and Liberty Loan issues, and the fostering of the thrift spirit among the help by selling of war savings stamps and circulars to that effect.

Middleburg Mills, Batesburg, S. C. This mill has discarded the plain looms and installed Draper automatic looms, has removed old flooring from the weave room and cloth room, installed new cement floors and made various changes in the layout of machinery to make the work pleasanter. They also employ a welfare superintendent, and carry on a vigorous kindergarten department, as in fact do all the mills in this group through South Carolina, the purpose being to teach the children of the help the more important details of personal hygiene, elementary sewing, cooking of meals suitable for their health, etc. This mill has contributed to the war charities, and is a liberal subscriber to the Liberty Bond issues.

Valley Falls Mfg. Co., Spartanburg, S. C. This mill has put up a new building, and is installing an additional 6,200 spindles, doubling the capacity of the mill. The old style looms have been thrown out, and Draper automatic looms put in to weave the production. A new warehouse has also been built, and the whole layout of the machinery changed to fit in with the changed floor plan on account of the new building. The mill will be all freshly

painted throughout, and new houses have been built and the old ones painted up and reworked. The help are keenly interested in the local store and church, and the mill extends what help it can without prying into their personal affairs. This mill has contributed to the various war charities and Liberty Loans and Treasurer's Certificates. It should be noted, also, that this mill has recently taken on electrical power instead of steam plant formerly used.

MARION COUNTY.

Marion Manufacturing Company, Marion, W. Stackhouse, president and treasurer:

"We pay a bonus of 10 per cent. each week for full time. We will pay a bonus of 20 per cent. on their earnings for 1919 to all employees who have rendered faithful service. We insure each employee for an amount equal to their earnings for one year, premium paid by us, and policy payable to employee's heirs.

"The Marion Manufacturing Company subscribed to \$35,000 in Liberty Bonds during the war, and also gave liberally to the Red Cross, Y. M. C. A., United War Work and all other patriotic causes.

"The employees of the mill also subscribed to bonds, bought war savings stamps and gave to all the causes mentioned above. We are unable to state any amounts. All children in our mill village attend school at the graded school of Marion as we do not have a mill school."

MARLBORO COUNTY.

The Marlboro Cotton Mills, located at McColl, is so proud of its surroundings that the management has issued a handsome booklet, profusely illustrated, showing domestic life in this beautiful town. There are few cotton mills east of a line drawn from Charlotte, N. C., through Columbia, to Augusta, Ga., and this is one of the notably successful enterprises.

The Marlboro Cotton Mills constitute the backbone of the industrial life of McColl. From a beginning in 1892, when a 2,500-spindle mill was erected, this progressive manufacturing corporation has grown into one of the best known textile manufacturing establishments in the South—with seven mills, having a complement of fifty thousand spindles; one hundred looms on automobile tire fabrics; and one of the most thoroughly modern

mercerizing plants in America. The company has an annual output of approximately eight million pounds of yarn and tire fabric, both of which are produced under registered trademarks.

The new high school building at McColl is a magnificent structure, erected at a cost of more than fifty thousand dollars.

In no textile community in the South are employees better housed than at McColl. The Marlboro Cotton Mill Company has spared no expense and no thought in providing comfortable homes for its people. All the homes are provided with city water from artesian wells.

NEWBERRY COUNTY.

The Newberry Cotton Mill was one of the first textile corporations in the State to show an interest in the personal welfare of its employees. The president of this mill, Z. F. Wright, and the superintendent, J. M. Davis, are earnest in their desire to surround their enterprise with a happy, intelligent and prosperous people. One of the first things which the mill undertook was to give the people a park and playground and to beautify their homes. This work has been going on for a period of ten years. One of the boys of this mill won the State oratorical contest a few years ago, defeating representatives of all the colleges in the State.

The most notable thing undertaken this year at the Newberry Cotton Mills was the "No Loafing-Profit Sharing Fund." The increased wages which the mill had been paying found some of the employees willing to work only part time, as they seemed to be making a plenty the other days in the week.

Finally, a mass meeting of all of the employees of the Newberry Cotton Mills was called and this plan laid before the meeting:

The management proposed to give a ten per cent. increase in wages to each employee, this increase to be due and payable only on condition that the employee lost no time from the mills, except for specified necessary reasons, from pay day to pay day. In case an employee lost time from the mills without good reason, ten per cent. on the amount he actually earned from pay day to pay day was to be placed in a cumulative fund along with an equal amount which the mill agreed to donate. This cumulative "No-Loafing-Profit-Sharing Fund" was to be administered by a committee of five employees, elected by their fellow em-

ployees. The committee was to administer the fund and decide the important question of the dates on which it was to be divided among the employees who had lost no time from the mill, except for specified reasons.

The plan, as outlined above, was enthusiastically endorsed by the employees after it was proposed by the management.

The cumulative fund, provided by the operation of the plan, is divided on the basis of one share for each week that an employee does not lose time from the mills, except on account of a death in the family, stoppage of machinery, etc.

The Oakland Mill at Newberry, of which Col. W. H. Hunt is president, has recently put up a beautiful new hotel for the use of the mill folk. A band of 18 pieces has been organized, the mill contributing \$1,300 therefor. New cottages are being built.

Some of Oakland's advantages: The high and dry site of its village; every employee's house occupies a big lot; wide, well-shaded streets; water from deep wells; homes of employees electrically lighted; homes of employees attractively painted; near the business center of Newberry; a good city school; a new hotel for employees; life insurance for employees carried by mill; excellent record for health.

The Glenn Lowry Mill at Whitmire is one of the thorough-going mill communities of the State. Two large dormitories, well equipped and well furnished, have been erected for the convenience of people wishing to board. The operatives for the most part are people who were born and reared in this immediate section, and there is not a more loyal, a more intelligent, or a more thrifty people in the whole country than the citizens of the Glenn-Lowry village.

A landscape gardener has been employed to beautify the streets and grounds owned by this company.

The Glenn-Lowry Y. M. C. A. is one of the most handsomely equipped and best arranged buildings for this class of work in the whole South. It contains a large auditorium, skating rink, bowling alleys, pool room, reading room, theatre, and is also equipped with hot and cold water, shower and tub baths. The building is provided with every modern convenience for the comfort of the people, and a different program is arranged for each afternoon and evening.

An organization in which the Glenn-Lowry people are very enthusiastic over, is their baseball team. This aggregation of

players, composed entirely of mill boys, won more games last season than any amateur team in either North or South Carolina. A very large number of games was played in each of these States and the Glenn-Lowry boys, winning a larger number than their competitors, lay undisputed claim to the mill championship of the two States.

The Glenn-Lowry boys take an active interest in scout work. Whitmire boasts the most distinguished troop of Boy Scouts in the State of South Carolina. In the drive for the Third Liberty Loan, President Wilson offered a beautiful silk American flag to the Boy Scout troop of each State selling the greatest number of bonds in proportion to size based on percentage. The Whitmire boys won the South Carolina flag and are proud of it.

The Glenn-Lowry Y. M. C. A. Band is another organization of which the entire town is very proud. The members of this organization are composed entirely of mill boys, and are a talented bunch of musicians. As a mark of appreciation, the Glenn-Lowry Mills gave both the band men and baseball team a trip to the mountains of Western North Carolina last summer. The young men were carried through Asheville, Hendersonville and Chimney Rock on a camping trip at the expense of the mill.

Mollohon Mill at Newberry is under the management of a kindly gentleman, Geo. W. Summer, who started in life as a farm boy. He is doing big things for his employees. Next summer they will have a three-acre park with swimming pool, and a large dancing pavilion. This will be a real park and playground.

One of the most thoughtful acts of any mill president has been the building of a girls' dormitory on the Mollohon property. This is a beautiful home with 14 bedrooms.

Summary of Mollohon's present plans: A new and beautiful park, with concrete, open-air swimming pool, dancing pavilion, a fountain and other attractive features, will be laid out immediately for the recreation of the employees next summer. The handsome, new girls' dormitory will be opened soon. The sewerage system will be extended to all houses occupied by employees. An ice plant will be installed. The new bungalows in the village will be ready soon. A new school house and community center will be built to contain, besides large class rooms, a hall for lodge meetings, a pool room, and shower baths. A good community worker is to be employed to organize entertainments and increase community spirit. The Mollohon Concert

Gold Band has been organized and will be heard from shortly, as the management has purchased for it a set of the finest instruments on the market.

Professor Doggett, director of the textile school of Clemson College, states that there has been a great revival of interest in the textile department—so much so that they have had to add another teacher to take care of the work. They have four of the newest looms in operation. The course embraces dyeing, weaving, carding, spinning, and industrial chemistry, in addition to designing, etc.

The industry is extremely friendly—the department having more inquiries for trained boys than it can furnish to the mills. The work has brought about a more happy relation between employer and employee—makes a cycle of contact. It has led to the promotion of boys who otherwise would have had no chance to better themselves. What boys are yearning for is technical knowledge. There are plenty of boys at the mills who just need a little knowledge to help them along. 'Take a fellow working at the mill who wants to go ahead but can't do any figuring and send him to Clemson to take the course will soon be able to forge ahead. What Clemson wants is to get enough boys to form a group so that they could have a teacher for themselves and not be working under disadvantage of being in class with boys who have gone over a great deal of the work which they are just commencing.

During the year 1919 Professor Doggett has been associated with the office of the State Superintendent of Education in carrying textile instruction to night schools in community centers. He declares that this has met with an enthusiastic reception.

Hetrick Hosiery Mills, Walhalla: "We installed electric lights in the homes of our employees during the year and are paying a bonus to all of 15 per cent. on the amount they earn each week. The employees contributed to war causes. There were only three who entered the service from our employ. This was due to the fact that we employ most all girls. In fact, we only employ, all told, about 50 people."

Oconee Mills Company, Westminster: "We have this year installed a nice equipment of playground apparatus in our village. Also have built a large lake for swimming, boating and fishing. We are now letting contracts for sewerage, waterworks and hot water ranges for our village, as well as changing houses.

Also we are paying bonuses to our employees. We also run a night school."

PICKENS COUNTY.

Isaqueena Mills, Central, Pickens County, R. Ramseur, secretary: "We are now erecting a standpipe in our village and running water from a deep well will be put in all of our cottages. One new church has been built, half of the cost being paid by the company. The material is being assembled for another church. We have a Y. M. C. A. worker and a lady welfare worker in the village. Plans are now being considered for the building of a community building, five houses have been moved and the site is now ready for the building, work will be started on same in the early spring. The company has purchased a tractor and road scraper in order to keep the streets in the village in good condition at all times. We can report that every cottage is filled at this time."

Pickens Mill, Pickens, S. C., W. M. Hagood, president, reports progress: "We have just completed installing a water filtering system in our village and have also put this filtered water in every cottage in our village. We have also installed drinking fountains in our mill, where the operatives have fresh, pure water at all times.

"We are also installing a complete sewerage system in our village, but this will not be completed until the spring of the year on account of shortage of labor and material.

"We do not use a bonus system at our mill, but have raised wages several times during the past year and are now paying wages equal to any other mill in our section.

"Our help are all satisfied and are very loyal to us, giving us the best work possible.

"We have a good school and school building in our village and have had the largest attendance this year that we have ever had and people are taking much more interest in educational matters. We do not think this is caused entirely by the compulsory educational law, but during the summer we had a night school in our village and the older people were very much interested in same. This, of course, caused more interest to be manifested by the children."

(The Commissioner feels that the facts about this mill should be a revelation to persons in other parts of the country. In this

mill village, and among its most law abiding citizens and enthusiastic patrons of education, are former moonshiners from the mountains around Pickens. Men once lawless, fearless and a menace to the section, are now good citizens, living in comfort and not worried about the "God given right to make likker.")

In the Glencoe Mill at Easley, another of W. M. Hagood's mills, the bulk of improvements were made in 1918. However, this mill makes a good report:

"We erected a very expensive six-room school building with auditorium above, and we have the honor of having the best building in the county.

"This year we have completed the installation of sanitary closets in all of our cottages and hope within the near future to install water and lights, although we have water in most of our cottages at this time.

"We do not give any bonuses, but have raised wages several times during the past year and are now paying as much as any other mill in our section.

"Practically all of our boys who were in the army have returned to us and have gone to work, making much better hands than they did before leaving.

"We have two churches—a Baptist and a Methodist—on our hill and our people are very much interested in religious work. We employ four teachers at our school who look after the welfare work on our hill and in cases of sickness aid the people."

RICHLAND COUNTY.

A mill unique in the South is the F. T. Parker Company, formerly the American Press Cloth Company. This mill makes a thick mat out of camel's hair and the entire product is used by cotton seed oil mills to press the oil out of the cake. Mr. Parker states: "During the year 1919 we have not installed any sewerage, co-operative stores, and have applied no bonuses to our employees. As to the giving to war causes, during the period 1917 and 1918 we gave our share and gladly did so. No return soldiers, and none died from our plant. We anticipate erecting a large mill building and when completed we shall install sewerage system."

T. H. Wannamaker, president, reports for the Glencoe Mills:

"We have erected eighteen new tenant buildings and one community house. We have water, sewerage and all conveniences.

We expect to employ a woman teacher to devote her entire time to our small children and grown up illiterates. We try to pay full wages and in addition have a profit sharing plan which has proven quite attractive to our operatives, who must be satisfied, as we not only have ample labor but a long waiting list."

The Columbia Mills Company has made some improvements of note, although this mill always tries to keep abreast of the times. Sewall K. Oliver, agent, states:

"Last year's work included as main features installation of waterworks, sewerage and plumbing of improved type, complete for our village and for the mill. This year's work has included grading of streets in our village, installation of concrete gutters and curbs with projected work for paving some sidewalks and surfacing streets. We have also improved our park and playgrounds, and have had a capable man in charge of athletic training which has been planned to include exercises and games for large numbers rather than special training of selected teams. We have also added a girls' club, containing facilities for a cooking school, reading rooms, etc. In the mill we have added a cafeteria or lunch room, where we serve the noon meal to about 25 per cent. of our employees. The cafeteria is run on co-operative principle so that the total cost of the noon meal for a whole week will be less than \$2.00.

"We have not complete detail information in regard to return of soldiers, but will say that there are only a few instances where soldiers have not returned. Approximately two hundred entered the service from our community, and although most of these men have served with the 30th Division and have seen very active service, we have been unusually fortunate in that we know of no more than four having been lost."

The Pacific Mills, the great plant at Columbia, has spent hundreds of thousands, literally, in domestic improvements since Irving Southworth took charge as agent about four years ago. His report for 1919 is brief, but really it compasses a large outlay for the health and happiness of the community.

"The addition of a swimming pool to our present Y. M. C. A. building, and the starting of improvements and alterations to the building itself.

"The installing of bath tubs in a number of our houses, and the installing of an electric lighting system to furnish lights to all our houses, which will be in operation by the first of the year."

SPARTANBURG COUNTY.

"The most interesting and important development at Saxon for the good of the community is an immeasurable, and almost indescribable, form for it centers around the introduction of a 'community organization.' All citizens of Saxon Mills and the adjacent territory can become members by enrolling on the books. Monthly 'town meetings' are held at which all subjects pertaining to the good of the community are discussed. In this way industrial, social, religious and educational matters are discussed and acted upon by the entire community. Combined action is accomplished by committees appointed by the organization. A cabinet of seven annually elected members comprises the board of governors.

"Concrete accomplishments by the Saxon Mills during 1919 are:

"The erection of a model community home for the teachers and community worker. Installation of water in all the operatives' houses. Construction of a well equipped and electrically lighted playground. Equipment of swimming pool. One hundred dollars' worth of new books for the library. Construction of community worker's office and first aid room equipped to give physical examinations to all school children and operatives. Fourth annual 'better babies' day. Purchase of new desks for the Saxon district school. Wages have been raised four times voluntarily. The Baptist church repaired and remodeled by the church and mill. Eighty-two Saxon boys were in war-time service. One casualty. Continuance of recreational and educational clubs. An entire year with no case of typhoid fever.

"A recent survey of the Saxon Mills employees shows these facts:

"Forty-seven families have lived here more than ten years. Seventy-three families have lived here more than five years. Out of the 134 families here 94 carry life insurance, 16 own automobiles, and 58 own musical instruments such as pianos or victrolas.

"Sixteen of the Saxon Mills families have children in the Textile Industrial Institute; 22 children attend the Spartanburg city schools and a few are away at school in higher grades than the local mill school provides."

"Community work" has been established at Chesnee Mills during the current year. Believing that the normal social life of a community centers around the school the Chesnee Mills is building a combined school and community building. The first floor contains an auditorium, school rooms, library, domestic science room, dining room, several club rooms, an office for the worker, and a first aid room. The second story is given over to a lodge room, roof garden and dressing rooms. In the basement are barber shop, hose house and club rooms. The building is of handsome rug brick. It will be surrounded with lawns and playgrounds well equipped. Adjacent to it will be the teachers' cottage and out-door swimming pool.

The community work will cover recreation, nursing, domestic science and club work.

The Chesnee Mills has also built a new store which by furnishing such commodities as ice, fresh meat, and a very complete line of groceries and merchandise will bring within reach of the patrons a higher standard of living. The store is of brick structure and includes the most modern fixtures and conveniences.

The operatives contributed liberally to the war causes. No statistics can be furnished as they are included in those of the town of Chesnee.

Enoree Mills, Allen J. Graham, president: "During the past year we have overhauled all the houses in our village, putting them in first-class condition and building a number of new houses; installed sewerage in some of them and in most of the others Kaustine toilets.

"We have a Red Cross nurse giving her entire time to the health of the village. Had to put on two additional teachers in our school to take care of the large number of new pupils this year, and have raised our teachers' salaries to \$100.00 a month, which we believe is as high as any in the State."

W. S. Gray Cotton Mills of Woodruff, D. B. Irby, secretary:

"Relative to the development of the domestic and religious side of cotton mill communities, etc., beg to advise that this mill has done a great deal towards adding to the comfort and healthfulness of the operatives of this mill such as installing sewerage and water in many of the houses of our operatives, and providing a resident pastor who gives practically all of his time to the church owned by this mill, and is entirely paid by this mill for his services, and the best school facilities—both day and

night schools—are well patronized by the children and grown-ups from this mill.

“Liberal bonuses are paid weekly, and a 6 per cent. bonus will be paid at Christmas based on the amount of time they had put in during the whole year.

“It has been found necessary during this year to send quite a number of our operatives to the hospitals at Spartanburg for operations and invariably we have had to advance the cash to meet the operating and hospital expenses in such cases which greatly helped in alleviating the sufferings of those that have been afflicted here.

“The operative houses are kept in good repair, and as we charge no rents the operatives are careful to select houses with ample room accommodations to meet their desires in that direction.

“Fine schools, splendid church facilities and free libraries and free playgrounds and with a wage schedule the highest ever known go far towards making a contented and prosperous people at this mill.”

J. Choice Evins, president of the Clifton Manufacturing Company: “At the present time we are installing water and sewerage and lights in the houses at Clifton. We are also working on a community house. We have made no additions to schools or churches since our report to you last year, though by reason of the compulsory education law we have had to increase our teaching force by three additional teachers, making a total of ten this year against seven last year, all of which expense is borne by the company.

“Our people liberally supported the government calls for subscriptions to thrift stamps and war loans made during the war.

“We have two savings banks here which aggregate deposits of about \$200,000, which banks report about one-third of our people as having savings bank accounts.

“While our young men responded readily to the country’s call, entering various branches of the service, most of them have returned home. From our village at Converse went out the first soldier to be killed from this county during the recent war, and there were also two others who lost their lives from the number who went out from Clifton. In all we supplied about 110 men, army and navy.”

The Cohannet Mill at Fingerville was bought in 1919 by B. B. Gossett, Jos. W. Tribble and associates. Mr. Tribble, who is in active charge, writes:

"We regret to advise that this property has been sadly neglected for many years, and it is going to take some time to place it on a basis that will compare with improvements that are being made by other mills. However, we have made a start in this direction and as fast as conditions warrant we expect to improve this property.

"The several subjects you mention have been grossly neglected, but as soon as we can these will be taken up one at a time."

W. E. Lindsay, president of the D. E. Converse Company of Glendale: "During the year we have had electric lights placed in all our cottages and on the streets of the village. Contractors are now engaged in installing waterworks throughout the village. This work we expect to have completed by the end of the year. Our employees, as well as the company, contributed liberally to all war causes. About sixty men enlisted from Glendale and practically all have returned. Some few were wounded, and, wonderful to relate, only one made the supreme sacrifice. And these men, most of them, were in the 30th Division."

UNION COUNTY.

Emslie Nicholson, treasurer of the Monarch and Lockhart Mills, summarizes for the year 1919:

"Completed a sewerage system in our village.

"Built a small addition to each house in which is placed a toilet and bath, and in the kitchen a sink.

"Are now painting all of our tenements.

"Have just completed a laundry to be used for the benefit of our operatives, and will take care of all the families who work in our village.

"We are contemplating starting a grocery store for the purpose of reducing the cost of living for our operatives.

"We expect to put in cement sidewalks and curbing throughout our village.

"Fifty-five of our boys enlisted in service from this plant; four lost their lives; four are still in service and forty-five have returned to the village.

"At our Lockhart plant a bank has been organized for the benefit of our operatives, and a splendid new school house has

just been completed. Cement sidewalks and curbing have been put over a considerable part of the village.

"Lockhart Power Company, a subsidiary of Monarch Mills, is completing the development of its water power on Broad River, and when completed it will furnish power to both Monarch and Lockhart plants, and will have considerable surplus for sale."

Shepard Nicholson, treasurer, of the Excelsior Knitting Mills, states: "We have installed in 90 cottages sewerage, sinks and bath tubs and bath rooms, and we have for some time past rewarded our employees for hard work with bonuses.

"We also carry insurance from \$300 to \$1,000 on the lives of each one of the employees as long as they are in our employ.

"We purchased \$55,000 of the various Liberty Loans, and subscribed \$825.00 to the various war charities.

"We have employed all of the returned soldiers who left us to go to war that have desired their old places back. Two of our men were killed in the service, several wounded, and two decorated by the American government and one by the American, British and French governments."

Union Mill: "School building has been enlarged; day nursery which was established last year is being continued with success; city sidewalks through certain sections of the village; entire village connected with city sewerage system and each house supplied with city water and kitchen sinks; two soldiers lost during the war."

Buffalo Mill: "Day nursery remodeled; old sewerage system improved and kitchen sinks installed in each house with running water; Bank of Buffalo established; one soldier lost during the war."

YORK COUNTY.

Arcade Mills, Rock Hill, Alexander Long, president:

"Some necessary extensions have been made to our sewerage system, though work in this line has been of a limited nature. We finished and furnished completely a commodious community house for the use of our operatives, and have a regular worker in charge who devotes her entire time to welfare work. Bonuses are paid in our mills for certain quality of work. In conjunction with another mill, we have employed a teacher for adult illiterates. She has met with encouragement in her efforts and reasonable interest has been displayed. Co-operating with the Savings

Division of the U. S. Treasury Department, we are now conducting an educational campaign in thrift, by the use of posters, folders distributed through our community center, pay-envelope stuffers, etc. Our mill contributed liberally to all war causes. A reception was tendered returned soldiers. Fortunately there was no loss of life in the war from our community."

Wymojo Yarn Mills, Rock Hill, operated in connection with the Lockmore Cotton Mills, York: "The year of 1919 has been a very busy one and we have not done as much for our people as we have wanted to. We are very conveniently situated to the schools and churches of the city of Rock Hill and our people have the best of advantages. We are within two blocks of Winthrop Training School and quite a few of our children go there and the rest to the city schools, and the same thing applies to the churches. We have waterworks and electric lights in every house. We now have plans for improvements to be made on our streets and park. We are going to build a community house right away, put in up-to-date swimming pool, and add to our playgrounds. We have over \$1,000 worth of playground fixtures that we are to install as soon as we get our park fixed up. Mr. E. S. Draper of Charlotte, N. C., has charge of this work and he is considered the best landscape architect in the South. Our mill was one per cent. in every drive made during the war. We are considering organizing a Loan and Savings Bank right away."

Hamilton Carhartt Mills, Rock Hill, by Benjamin L. Ivey, assistant treasurer:

"We have made a good many improvements during the year at both of our mills; particularly our Mill No. 2, located at Carhartt, S. C., having added several new cottages, a handsome school house, store building; also installed a complete system of electric street lighting, etc.

"We have a flourishing school and find it necessary to employ another teacher. We propose within the next two weeks to install a trained nurse and welfare worker also.

"At our No. 1 mill we plan extensive improvements in our community house, doubling our present building and adding a shower bath, swimming pool, etc.

"We are continually witnessing good effects from this kind of work, which is a particular hobby of Mr. Carhartt.

"Within the next six months we will also double the capacity of our No. 2 mill, adding 5,000 spindles. We will also add 3,000 or 4,000 spindles to our No. 1 mill at Rock Hill.

"Aside from a little shake-up which we had last August when the Textile Union was in the process of organization in our city, we have had no trouble whatever. Our people are making the highest wages ever recorded in this class of business.

"In addition to our kindergarten and welfare work, we have night schools, and contemplate beginning a series of studies in the various departments of the cotton mill. This is to be absolutely under the supervision of the United States Government and Clemson College."

Liberty Hosiery Company, Rock Hill, J. C. Cauthen, president:

"We do not own a mill village and therefore our work is confined to the mill itself largely. We have secured a large boarding house across the street from the mill, repaired it and placed there as matron a young lady well fitted to take charge of a home in which young ladies who have no home can live.

"We have installed a bonus system by which those employees who are regular in attendance and whose piece work reaches the task allotted are paid not only a higher rate for the amount over the task, but the entire week's work. This seems to have met with the entire approval of the force.

"We have fitted up a rest room upon the second story of the plant for our girls, where they can lounge, read, write, dance by Victrola music and prepare and serve light lunches. This room is equipped with tables, victrola and arm-chairs. The adjoining room has a dining table and a gas range for the preparation of their lunches.

"Our male employees were too young to enter the service, but the girls contributed splendidly to all of the war loans and drives. In the recent Red Cross drive the percentage was higher than any other manufacturing plant in the city."

A GREAT TEXTILE SCHOOL

A report of the industrial activities in South Carolina during 1919 would be incomplete without a statement regarding the remarkable success of the Textile Industrial Institute. It is something of which the State is proud.

At the great Methodist Church exposition at Columbus, Ohio, last July there was nothing that attracted so much attention as the exhibit of this institution, and by reason of the exhibit the interest, friendship and benefactions of hundreds of good people all over the country were showered upon the remarkable school for cotton mill boys and girls.

Nine years ago Rev. D. E. Camak, a young Methodist preacher with dependents and no funds, borrowed \$100 to put into operation his great idea, the purpose of which was to aid ambitious boys and girls in mill communities. He placed his work under the Methodist conference although some of his strongest supporters have been Presbyterians, and members of other denominations. Walter Montgomery and John A. Law were mill managers who caught the fire of the earnestness of the young preacher and they helped him. Like all originators of new ideas, he had to face many a discouragement, and many times his back was bowed under the load he was carrying, but today it is permitted him to enjoy the fruition of his fondest hopes and dreams.

At first Mr. Camak sought merely to provide part-time work so that a boy or girl might work one week and go to school the following week, their slender income being augmented by funds which came almost miraculously as the ravens came to Elijah. But the funds came although there were times when the game little preacher and his family were almost in personal destitution because of their sacrifices for the cause in which he had so much faith and into which he put so much zeal.

I consider the success of the Textile Industrial Institute an achievement for the State and a glorious part of our history as a State.

Seventy-five per cent. of the students have returned to the mills and have made good in positions of responsibility. The economic value of such trained, educated help needs no elaboration here. The purpose of the institute is to find, train, educate,

and Christianize the men and women who are to do the thinking for the cotton mill people. It is a practical textile laboratory, a self-help school, a clearing house for the textile industry.

Mr. Camak proposes to have a school that in time will be equipped to train 1,000 mill boys and girls at a time. Just how he has wrought what he has within the nine years seems almost like magic, but he first put up Hammond Hall, where the pupils boarded and were taught. Nearby is the Saxon Mill, with whose president, John A. Law, Mr. Camak had a working agreement. This mill was used as the workshop where the boys and girls worked and earned.

And now there is nearing completion a model mill, costing about \$250,000. It is, I feel safe in saying, the best built, best equipped cotton mill in the world, not large but almost with the perfection of a many-jeweled Swiss watch. This undertaking has in less than ten years acquired property worth more than half a million dollars, has given South Carolina favorable publicity throughout the world, and has given hope, opportunity and enlightenment to boys and girls, now numbering into the thousands. This is wonderful when we think of the start with a student body of one man, married, 33 years old, ignorant and yearning to learn, to be a man. This "sociological experiment" was sneered at, ridiculed, and even had opposition from men of powerful position in the church. Of its present Mr. Camak writes:

"The model mill, costing some \$250,000, is about ready to run. It will make about 1,500 yards per day of 'Character Cloth'—trade mark registered—in which will be scores of different kinds of dress goods, shirtings, towels, tablecloths, napkins, curtains, pillow case tubing, mercerized duck, etc. Every one of the forty-odd processes necessary to produce the best cotton cloth that it is possible to make will be done in our mill, from the opening of the bale, through the carding, combing, spinning, twisting, singeing, dyeing, bleaching, mercerizing, designing, warping, weaving, finishing, stamping with trade mark in selvage, and selling by parcel post to the home—all these will be done in our mill. We will have our own postoffice in the mill itself and will deliver the wrapped packages to the train.

"More than 11,000 of the best people in the world—the people for the most part who were financially able and sentimentally inclined to attend the Centenary in Columbus, Ohio, last sum-

mer—have put their own names and address on our mailing list and are now waiting for sample books to be sent them. This list represents a thousand American cities, every State in the Union, and a dozen foreign countries. Which means 'Character Cloth' will speedily become known around the world.

"But what is all this fuss about? We are not a manufacturing concern. *We are a character factory.* We make human character and distribute it. Six States from Virginia to Texas are represented in our present enrollment of 216 grown, hungry, eager, capable, clean, *ignorant* young Southerners. They are working their way through the Character Factory by making 'Character Cloth.'"

TABLE 1.—DIRECTORY OF COTTON MILLS AND OTHER TEXTILE INDUSTRIES—1919.

County.	Location.	Title of Corporation.	Name of President.	Spin- dles.	Looms	Kind of Goods Manufactured.
Abbeville	Abbeville	Abbeville Cotton Mills.	H. A. Hatch.	25,800	954	Export and Standard Sheeting.
Aiken	Calhoun Falls	Calhoun Mills	Jas. P. Gossett.	25,600	600	Sheeting and Prints.
	Rath	The Aiken Mills	W. C. Langley.	32,822	784	Fancies and Plain Twills.
	Graniteville	Graniteville Manufacturing Co.	Jacob C. Plimley.	58,004	1,700	Sheetings, Drills, Twills.
	Langley Mills	The Langley Mills.	W. C. Langley.	48,720	1,000	Twills, Drills, Osnabergs.
Anderson	Clear Water	The Senoile Mills.	W. C. Langley.	23,104	508	Kepps, Beach Cloth.
	Warrenville	Warren Manufacturing Co.	Jacob C. Plimley.	36,080	1,000	Prints.
	Anderson	Anderson Cotton Mills.	W. C. Langley.	71,392	1,000	Prints, Pajama Checks.
	Anderson	Anderson Hosiery Mills.	R. H. Coney.	63,048	1,400	Hosiery.
	Belton	Belton Mills	Elison A. Smyth.	1,542	48	Sheeting, Shirting, Drills.
	Belton	Brogan Mills	E. B. Rice.	27,780	900	Turkish Towels.
	Honeca Path	Chiquola Manufacturing Co.	Jas. P. Gossett.	41,280	1,000	Flannels and Fancies.
	Anderson	Connoress Yarn Mills.	A. S. Farmer.	1,200	.....	Asbestos Yarn.
	Anderson	Equinox Mills	Wm. H. Wellington.	17,544	408	Cotton Duck.
	Iva	Gluck Mills	Wm. H. Wellington.	35,160	704	Cotton Lawns.
Barnwell	Anderson	Jackson Mills	Alfred Moore	25,580	701	Prints and Sheetings.
	Anderson	Orr Cotton Mills	Jas. D. Hammett.	62,272	1,504	Drills, Sheetings, Prints.
	Pelzer	Pelzer Manufacturing Co.	Elison A. Smyth.	136,000	2,639	Sheeting, Shirting, Drills.
	Pendleton	Pendleton Cotton Mills.	B. B. Gossett.	10,784	.....	Cotton Yarns.
	Autun	Pendleton Manufacturing Co.	E. N. Sitton.	3,250	.....	Coarse Yarns.
	Anderson	Riverside Manufacturing Co.	B. B. Gossett.	25,312	.....	Yarns.
	Anderson	B. C. Townsend Cotton Mills.	J. B. Townsend.	27,248	724	Prints.
	Anderson	Toxaway Mills	J. B. Gossett.	32,236	750	Sheeting.
	Williamston	Williamston Mills	Jas. P. Gossett.	10,752	324	Sheeting.
	Blackville	Bamberg Cotton Mill Co.	John H. Cope.	1,536	42	Hosiery.
	Blackville	Sunlight Hosiery Mill.	J. M. Farrell.	5,312	.....	Bagging for Covering Cotton.
	Charleston	Charleston Bagging Mfg. Co.	John D. Filly.	13,066	53	Asbestos Yarn and Cloth.
	Charleston	General Asbestos and Rubber Co.	C. B. Jenkins.	13,066	336	Yarns, Bags, Sheeting, Osnabergs.
	Charleston	Royal Mills	W. Wagener.	250	250	Prints and Hosiery Yarns.
Cherokee	Cherokee Falls	Cherokee Falls Manufacturing Co.	F. W. C. Hamrick.	30,020	538	Print, Osnabergs, Warps and Yarn.
	Gaffney	Gaffney Manufacturing Co.	J. C. Plonk.	60,224	1,618	Prints.
	Gaffney	Globe Manufacturing Co.	L. G. Potter.	3,840	119	Crashes and Turkish Towels.
	Gaffney	Hamrick Mills	W. C. Hamrick.	25,000	625	Sheetings.
	Gaffney	The Irene Mills	H. D. Wheat.	4,816	94	Cotton Danusk Napkins and Towels.
	Gaffney	Limestone Mills	J. A. Carroll.	25,000	640	Sheetings.
	Blacksburg	Volunteer Knitting Mill	C. H. Bird.	.....	.....	Hosiery.
Chester	Chester	Baldwin Cotton Mills	Alex. Long.	31,488	700	Sheeting.
	Chester	Eureka Cotton Mills	Leroy Surging.	25,758	600	Prints.
	Lando	Manetta Mills	Estate of B. D. Heath.	16,000	338	Yarns and Cotton Blanket.

Great Falls	Republic Cotton Mills	Robt. S. Mebane	58,848	1,820	Prints
Chester	Springstain Mills	Leroy Springs	14,560	570	Gingham
Cheraw	Cheraw Cotton Mills	Robert Chapman	6,912		Men's Union and Two Piece Knit Underwear.
Darlington	Pear Dee Knitting Mills	Robert Miliken		1,243	Prints
Darlington	Darlington Manufacturing Co.	G. H. Miliken	51,382	880	Prints
Dillon	The Harrisville Cotton Mill	C. C. Twitty	36,064		Prints
Edgfield	The Dillon Mills	L. A. Tatum	40,384		Yarns
Edgfield	Edgfield Mills	H. H. Kindell	17,312	298	Surgical Gauze
Fairfield	Winnaboro Mills	H. Furold Greene	35,160	16	Cord Tire Fabric
Greenville	American Spinning Co.	J. H. Morgan	53,760	1,104	Sheeting and Ply Yarn
Greenville	Beaver Duck Mills	W. D. Crouch	5,528	20	Cotton Duck
Greenville	Camperdown Mills	Aug. W. Smith	86,016	2,240	Bag Good, Prints, Sheetting
Greenville	Conestee Mills	C. E. Graham	12,672	612	Staple Gingham
Greenville	Duncan Mills	Thos. I. Charles	20,264	505	Drills
Greenville	Fountain Inn Mfg. Co.	H. J. Hayneworth	50,720	1,200	Fine Fancies and Shirtings
Fountain Inn	Fountain Mills	J. T. Woodside	16,000	450	Prints and Damasks
Greer	Franklin Mills	W. E. Mason	10,000	385	Sheeting and Drills
Greer	Greer Manufacturing Co.	M. C. Branch	25,600	730	Plain and Fancies
Greenville	Judson Mills	B. E. Geer	52,640	1,288	Fancies and Yarns
Fountain Inn	Katrine Manufacturing Co.	F. W. Symm	5,248		Yarns
Greenville	Mills Manufacturing Co.	Allen J. Graham	31,000	816	Prints and Twills
Greenville	Monaghan Mills	M. C. Branch	60,032	1,540	Fancies and Quills
Greenville	Okch Manufacturing Co.	F. H. Cunningham			Yarns
Piedmont	Piedmont Manufacturing Co.	C. S. Webb	10,046		Yarns, Twine, Rope and Ball Sewing Thread
Greenville	Poinsett Mills	W. E. Beattie	70,840	1,072	Sheeting, Shirting, Drills, Yarns
Greenville	P. W. Poe Manufacturing Co.	F. W. Poe	70,332	1,700	Print and Sheetting, Fancies
Greenville	Prospect Mills	Aug. W. Smith	27,776	728	Prints and Bag Goods
Greenville	Saluda Manufacturing Co.	Mac Millan C. King	3,014		Yarns
Simpsonville	Simpsonville Cotton Mills	F. H. Cunningham	3,500		Yarns
Greenville	Union Bleaching and Finishing Co.	J. T. Woodside	25,000	600	Prints
Greenville	Vardry Cotton Mills	L. M. McBe	4,320		Bleach, Dye and Finish Cotton Piece Goods
Greenville	Woodside Cotton Mills Co.	J. T. Woodside	113,060	2,711	Yarns
Greewood	Greenwood Cotton Mills	J. C. Self	52,088	1,124	Prints
Greewood	Greenwood Hosiery Mill				Sheeting and Prints
Greewood	Grendel Mills No. 1 and No. 2	J. P. Abney	62,080	1,402	Wide Prints
Ninety-Six	Ninety-Six Cotton Mills	J. P. Abney	24,192	567	Wide Prints
Greewood	Parola Cotton Mills	S. H. McGee	17,472	407	Prints
Ware Shoals	Ware Shoals Manufacturing Co.	Reed D. Riegel	70,900	1,907	Sheeting, Shirting, Print, Drills, Osnabergs
Camden	Wateree Cotton Mills	R. B. Pitts	18,400	380	Prints
Camden	Wateree Mills	H. P. Kendall	18,816	492	Sheetings
Kershaw	Kershaw Cotton Mills	Leroy Springs	12,160	482	Carded Lawns
Lancaster	Lancaster Cotton Mills	Leroy Springs	130,608	3,006	Sheeting, Shirting, Yarns
Goldville	Bama Manufacturing Co.	Geo. M. Wright	14,224	328	Wide Prints
Laurens	Clinton Cotton Mills	M. S. Bailey	68,512	1,622	Sheeting and Drills
Laurens	Laurens Cotton Mills	N. B. Dial	44,832	1,184	Smitties, Pajama Checks and Semi-fancy Shirting

TABLE I.—DIRECTORY OF COTTON MILLS AND OTHER TEXTILE INDUSTRIES—1919.—(Con.)

County.	Location.	Title of Corporation.	Name of President.	Spin- dles.	Looms	Kind of Goods Manufactured.
Laurens.—Con.	Clinton	Lydia Cotton Mills	M. S. Bailey	22,544	500	Wide Prints.
	Laurens	Watts Mills	Geo. M. Wright	43,200	984	Pancies.
	Lexington	Lexington Manufacturing Co.	Geo. H. Huggins	6,754	304	Ticking and Samsen Stripes.
	Batesburg	Middleburg Mills	G. E. Huggins	10,624	320	Ticking, Hickory Shirting and Chambray.
Marion	Lexington	Saxe-Gotha Mills	G. E. Huggins	11,240	288	Pajama Checks and Fancy Weaves.
	Marion	Marion Manufacturing Co.	W. Stuckhouse	7,168	188	Cotton Yarns.
	Marlboro	Marlboro Cotton Mills	Claude Gore	46,000	58	Yarn and Auto Tire Fabric.
	Bonnettsville	Sterling Hosiery Mill	W. D. Smith	70,848	1,650	Men's Cotton Hosiery.
Newberry	Whitmire	Glenn-Lowry Manufacturing Co.	E. E. Child	40,192	886	Print Cottons.
	Newberry	Mollobon Manufacturing Co.	George W. Summer	43,678	1,224	Print Cloth and Sheetting.
	Newberry	Newberry Cotton Mill	Z. F. Wright	26,432	600	Print Cloth.
	Newberry	Oakland Cotton Mills	W. H. Hunt	26,080	27	Sampla.
Oconee	Cleuson College	Textile Department	W. M. Riggs	25,344	624	Wide Sheetting and Pajama Checks.
	Newry	Courtenay Manufacturing Co.	Campbell Courtenay	13,000	218	Knitted Hosiery.
	Walhalla	Hetrick Hosiery Mills	W. A. Hetrick	19,840	450	Fancy Cotton Goods.
	Westminster	Seneca Cotton Mills	Robert Lassiter	18,816	510	Print Cloth
Orangeburg	Walhalla	Walhalla Cotton Mills	M. C. Branch	5,000		Sheetings.
	Orangeburg	Orange Cotton Mill	Wm. Wannamaker	14,848	392	Ball Twine.
	Pickens	Slitex Mills	John H. Cope	23,512	532	Print Cloth.
	Eastley	Eastley Cotton Mills	B. E. Geer	37,710	1,020	Sheetings.
Pickens	Liberty	Eastley Cotton Mills, No. 2	B. E. Geer	24,540	600	Sheetings.
	Liberty	Eastley Cotton Mills, No. 3	B. E. Geer	11,276	300	Print Cloth.
	Eastley	Glenwood Cotton Mills	W. M. Haspood	43,016	1,100	Print Cloth and Sheetting.
	Central	Gasqueena Mill	W. L. Gasaway	25,680	620	Print Cloth.
Richland	Pickens	Norris Cotton Mills Co.	P. M. Norris	19,068	432	Wide Print Cloth.
	Pickens	Pickens Mill	W. M. Hugood	23,040	600	Sheetings.
	Columbia	Columbia Mills Co.	Howard Baejer	20,568	640	Heavy Canvas, Felt and Ropes.
	Columbia	Glencoe Cotton Mills	F. H. Wannamaker	6,048		Cotton Yarns.
Spartanburg	Columbia	Pacific Mills	Robert F. Herrick	106,786	4,800	Print Cloth.
	Columbia	Palmetto Cotton Mills	Robert F. Huggins	10,320	300	Pajama Checks and Fancy Weaves.
	Columbia	F. T. Parker Co.	V. F. Huggins	10,320	4	Hair Press Cloth.
	Columbia	Southern Aseptic Laboratories	D. A. Guignard			Absorbent Cotton.
Spartanburg	Arlington	Appalache Mills	M. C. Branch	19,712	780	Yarn.
	Arcadia	Arkwright Mills	H. A. Ligon	33,962		Sheetting.
	Spartanburg	Beaumont Manufacturing Co.	R. G. Cates	20,256	604	Cotton Drills.
	Spartanburg	Blue Ridge Hosiery Mills	B. L. Jennings	37,890	880	Sheetting, Duck, Onalberg and Twine.
Spartanburg	Landrum	Calton Manufacturing Co.	Joseph Lee			Hosiery.
	Spartanburg	Calton Manufacturing Co.	C. H. O'Neale			Ladies Hosiery.

Chesnee	Chesnee Mills	John A. Law	440	Larva.
Clifton	Clifton Manufacturing Co.	J. C. Evans	29,100	Sheatings, Drills and Prints.
Glendale	D. E. Conner Co.	J. E. Lindsay	86,832	Sheatings, Drills and Print Cloth.
Fingerville	Colanett Mills	J. E. Mitchell, Jr.	97,370	Sheatings, Drills and Print Cloth.
Cowpens	Cowpens Manufacturing Co.	J. W. Brown	9,000	Sheatings.
Crescent	Crescent Manufacturing Co.	J. W. Montgomery	17,300	Sheatings.
Spartanburg	Drayton Mills	D. W. Montgomery	888	Cotton Stockings.
Spartanburg	Shoree Mills	Allen J. Graham	14,800	Fine Convertibles.
Shoree	Shoree Manufacturing Co.	L. Roy Curtis	842	Sheatings and Drills.
Almont	Fairmont Manufacturing Co.	Alfred Moore	12,608	Sheatings.
Wellford	Fort Prince Printing Co.	W. S. Gray	3,900	Cotton Yarn.
Woodruff	W. S. Gray Cotton Mills	W. S. Gray	30,082	Cotton Yarn.
Imman	Imman Mills	J. A. Chapman	33,024	Print Cloth.
Mayo	Mary-Louise Mills	William Whitman	1,000	Ply Yarn, Drills and Twills.
Pacolet	Pacolet Manufacturing Co.	V. M. Montgomery	132,764	Print Cloth.
Landrum	Saxon Mills	J. A. Law	41,216	Print Cloth.
Spartanburg	Shamrock-Dumas Mills	H. L. Spears	86,000	Cotton Dumas.
Spartanburg	Spartan Mills	J. W. Kirby	2,600	Cotton Hosiery.
Tucapau	Star Hosiery Mill	H. F. Cleveland	66,184	Print Cloth.
Spartanburg	Tucapau Mills	J. F. Cleveland	1,196	Pamela Checks and Fancy Weaves.
Greer	Valley Falls Manufacturing Co.	G. E. Huggins	9,984	Pamela Checks.
Spartanburg	Victory Manufacturing Co.	M. C. Branch	89,136	Print Cloth.
Whitney	Whitney Manufacturing Co.	J. B. Cleveland	30,662	Cotton Stockings.
Woodruff	Woodruff Cotton Mills	August W. Smith	44,062	Sheatings and Shade Cloth.
Union	Excelsior Knitting Mills	Emmie Nicholson	912	Hosiery and Paper Boxes.
Union	Gault Manufacturing Co.	C. H. Gault	5,516	Cotton Hosiery.
Lockhart	Lockhart Mills	W. E. Winchester	87,184	Prints and Sheatings.
Union	Monarch Mills	W. E. Winchester	78,528	Print Cloth.
Union	Ottaway Mills	M. C. Branch	1,825	Print Cloth.
Union	Union-Buttalo Mills Co.	A. C. Feltman	22,668	Prints.
Jonestown	Wallace Mill	M. C. Branch	162,800	Drills, Sheatings, Twills.
Rock Hill	Aragan Cotton Mills	Alex Long	4,062	Drills, Sheatings, Twills.
Rock Hill	Aragan Cotton Mills	Alex Long	15,564	Sheatings.
Rock Hill	Aracade Cotton Mills	Alex Long	23,562	Print Cloth.
York	Cannon Manufacturing Co.	G. H. O'Leary	18,576	Print Cloth.
Clover	Clover Manufacturing Co.	T. L. Johnson	16,572	Cotton Towels.
Rock Hill	Enterprise Manufacturing Co.	L. Leroy Springs	24,000	Combed Yarn.
Fort Mill	Fort Mill Manufacturing Co.	T. L. Johnson	106	Jute Bagging.
Rock Hill	Hamilton-Carhart Mills	Hamilton Carhart	41,968	Gingham and Sheatings.
Carhartt	Carhartt Mills, No. 2	Hamilton Carhartt	12,132	Gingham and Sheatings.
Clover	Hawthorn Spinning Mills	Thos. McConnell	6,900	Denims.
Rock Hill	Highland Park Manufacturing Co.	C. W. Johnston	7,200	Denims.
Rock Hill	Liberty Hosiery Co.	J. C. Cauten	6,000	Combed Cotton Yarn.
York	Lockmore Cotton Mills	J. C. B. Armstrong	16,256	Ginghams.
Rock Hill	The Manchester Cotton Mills	J. R. Barron	776	Mercerized Half Hose.
York	Neely Manufacturing Co.	R. B. Moore	6,000	Cotton Yarn.
York	Reynolds Cotton Mill Co.	R. C. Patrick	18,840	Cotton Yarn.
Bowling Green	Victoria Cotton Mills	W. J. Moore	1,664	Cotton Yarn.
Rock Hill	Victoria Cotton Mills	W. J. Moore	5,000	Knitting Yarns.
Rock Hill	Wynolpo Yarn Mills	C. B. Armstrong	17,664	Knitting Yarns.
Rock Hill	Wynolpo Yarn Mills	C. B. Armstrong	8,568	Ginghams.
York				Cotton Yarn.

TABLE II.—COMPARISON OF TEXTILE STATISTICS COMPILED FROM SCHEDULE REPORTS DECEMBER 1917, 1918, 1919.

	1917	1918	1919	Increase	Decrease
Number of establishments.....	162	169	174	5	
No. partners or stockholders (reported).....	16,648	18,579	20,287	1,708	
Capital invested.....	\$62,531,304	\$100,966,540	\$117,177,166	\$16,310,626	
Value of annual product.....	\$155,901,909	\$217,210,077	\$228,912,960	\$11,702,883	
Average number days plant operated.....	303	288	296	8	
Number of salaried males (reported).....	851	849	924	75	
Number of salaried females (reported).....	130	225	200		25
Average number of persons employed.....	52,414	48,169	51,462	3,298	
No. males over 16 years employed.....	32,172	28,639	32,277	3,638	
No. females over 16 years employed.....	16,186	15,430	19,900	470	
No. males under 16 years employed.....	2,106	2,296	1,774		522
No. females under 16 years employed.....	1,950	1,904	1,511		298
Total wages, not includ. salaries mgrs.....	\$21,526,368	\$28,276,212	\$36,677,388	\$8,401,176	
Wages paid males over 16 years of age.....	\$14,359,871	\$18,342,821	\$24,757,195	\$6,414,374	
Wages paid females over 16 yrs. of age.....	\$5,854,362	\$8,016,811	\$10,061,971	\$2,045,160	
Wages paid males under 16 yrs. of age.....	\$684,710	\$1,100,245	\$1,032,131		\$68,114
Wages paid females under 16 yrs. of age.....	\$627,425	\$816,335	\$826,091	\$9,756	

TABLE III.—COMPARISON OF STATISTICS COMPILED FROM TEXTILE REPORTS (AUGUST, 1919)—FORM 22.

	1917	1918	1919	Increase	Decrease
Capital stock (par value).....	\$72,909,286	\$74,369,120	\$80,018,851	\$5,649,731	
Total capital invested in plants.....	\$92,621,499	\$98,508,198	\$110,612,747	\$12,109,549	
Number of spindles.....	4,867,319	4,914,524	4,947,644	33,120	
Number of looms.....	114,553	114,748	115,130	382	
Number of knitting machines.....	1,486	1,904	2,029	125	
Bales of cotton consumed annually.....	941,196	930,550	837,152		93,398
Tons of coal consumed annually.....	524,054	592,833	525,093		67,140
Value of annual product.....	\$134,948,669	\$185,957,414	\$209,931,238	\$23,973,824	
Number of white males employed.....	39,797	27,737	29,328	1,571	
Number of white females employed.....	16,560	15,702	15,511		191
Number of negro males employed.....	3,416	3,439	3,875	436	
Number of negro females employed.....	485	990	1,357	358	
Total number of employees.....	50,790	52,445	50,071		2,374
Total population mill village (estimated).....	132,827	125,942	129,616	3,674	
No. male children employed (14 to 16).....	2,400	2,547	2,063		464
No. females employed (14 to 16 yrs).....	2,271	2,001	1,673		323
Horse power (water).....	29,586	37,003	27,510		9,498
Horse power (steam).....	72,750	69,011	64,853		4,158
Horse power (elec. gen. by water).....	67,455	83,130	69,737	6,607	
Horse power (elec. gen. by steam).....	26,306	12,945	14,967	2,042	

Note.—The comparisons in the above table have been compiled from reports made out and signed by mill managers.

TABLE IV.—STATISTICS COMPILED FROM INSPECTORS' REPORT CARDS AS FOUND AT MILLS AT DATE OF INSPECTOR'S VISIT. COMPARISON YEARS 1916, 1917, 1918, 1919.

	1916	1917	1918	1919	Increase	Decrease
Number of white males employed.....	30,738	30,382	25,857	27,339	1,482	
Number of white females employed.....	16,204	16,836	15,887	15,882		5
Number of negro males employed.....	2,852	3,364	2,947	3,098	151	
Number of negro females employed.....	107	435	861	843		18
Total number of employees.....	49,901	51,017	45,552	47,162	1,633	23
Number of white males (14 to 16 years).....	2,551	2,393	1,073	2,026	53	
Number of white females (14 to 16 years).....	2,183	2,086	1,795	1,683		112
Number of negro males (14 to 16 years).....	51	28	33	14		19
Number of negro females (14 to 16 years).....		1	3	13	10	

Note.—The above table has been compiled from inspectors' report cards and shows actual employees found in the mills.

TABLE V.—TEXTILES BY COUNTIES, 1918—FROM SCHEDULE REPORTS.

Counties.	Number of Establishments.	Number of Partners or Shareholders.	Capital Invested.	Value of Annual Product.	Number Days Plant Operated.	Number.		Average Number Persons Employed.	Number.				Total Wages, Not Including Salaries of Managers.		Total Wages.			
						Salaried Employees.			Over 16 Yrs.		Under 16 Yrs.				Over 16 Yrs.		Under 16 Yrs.	
						Males.	Females.		Males.	Females.	Males.	Females.			Males.	Females.		
Abbeville	2	168	\$1,407,000	\$2,743,750	309	10	2	510	348	126	17	9	\$385,400	\$263,780	\$108,952	\$11,004	\$5,814	
Aiken	5	680	4,081,100	12,604,000	270	35	13	2,518	1,683	734	49	32	1,800,358	1,279,862	445,187	43,656	32,843	
Anderson	18	6,939	12,703,925	24,230,010	301	110	25	5,290	3,353	1,531	215	181	3,850,357	2,623,890	1,004,187	124,708	97,988	
Barnwell	1	1	123,640	289,407	285	4	1	60	64	26	2	1	58,292	37,922	18,993	680	375	
Barnwell	1	1	150,000	130,000	300	1	1	40	14	26	1	1	20,718	6,753	13,973	.....	.....
Charleston	3	112	3,680,654	7,719,970	305	46	23	1,532	837	686	5	4	1,038,092	750,772	264,305	24,305	1,532	
Charleston	9	722	3,710,654	5,989,570	297	27	1	1,542	957	475	60	50	1,001,946	640,441	303,307	32,083	25,935	
Chester	5	84	2,532,800	7,276,962	293	29	8	1,894	1,277	526	47	44	1,434,404	1,012,636	398,503	27,745	25,310	
Chester	2	115	1,833,700	1,660,932	229	3	2	131	69	43	5	4	69,021	44,793	17,800	9,486	1,752	
Darlington	2	293	1,520,000	1,435,710	296	11	1	535	823	172	13	27	835,615	215,739	95,394	8,410	16,372	
Darlington	1	63	178,000	1,175,000	285	4	1	411	246	149	7	9	313,330	108,735	55,475	8,900	5,150	
Dillon	1	1	173,506	1,396,000	300	3	1	135	98	38	2	1	105,892	90,556	22,377	1,252	1,177	
Edgefield	1	3	1,172,404	1,554,000	306	6	1	351	219	118	1	7	226,296	155,013	63,815	3,900	3,508	
Fairfield	24	2,368	16,982,170	39,253,700	301	129	19	7,981	4,916	2,469	280	256	5,700,251	3,213,780	1,460,003	165,150	135,366	
Greenville	6	779	4,262,400	10,628,813	302	34	12	2,722	1,787	757	158	50	1,922,343	1,323,066	501,540	70,318	27,079	
Greenville	2	42	866,100	1,225,000	303	8	2	353	236	94	14	9	250,820	173,913	62,044	8,150	6,143	
Kershaw	2	416	3,273,517	5,070,435	304	6	2	1,368	806	380	32	40	949,340	697,428	229,875	23,113	28,824	
Laurens	5	469	4,113,646	4,417,177	310	25	3	1,295	826	377	35	37	945,235	642,326	256,710	27,902	18,897	
Laurens	3	32	1,106,928	2,020,000	308	5	2	419	251	141	13	14	245,707	157,979	90,852	3,682	3,264	
Lexington	1	17	150,103	334,469	285	3	1	80	49	26	2	3	52,038	38,664	11,448	858	1,048	
Marion	2	238	1,563,447	7,040,000	300	12	5	771	405	233	71	62	467,858	257,960	108,000	67,000	39,868	
Marion	4	610	4,713,426	8,310,657	302	30	4	1,780	1,033	621	58	56	1,257,045	781,127	422,763	26,530	26,666	
Newberry	6	128	2,021,354	3,822,650	306	19	3	864	534	288	19	23	578,071	390,773	167,898	9,459	10,531	
Orangeburg	2	.....	1,193,518	1,193,518	282	5	1	215	133	71	7	4	149,691	93,976	51,850	2,721	1,635
Pickens	8	676	5,746,438	8,105,907	306	36	6	1,711	1,069	501	76	63	2,301,698	780,637	341,203	44,858	35,457	
Pickens	6	1,344	4,728,108	11,153,234	288	34	21	2,792	1,760	800	77	63	2,396,658	1,592,764	720,974	46,582	35,988	
Richland	28	2,634	19,821,963	34,501,445	293	182	18	8,036	5,037	2,440	310	249	5,586,563	3,667,197	1,585,996	174,463	138,837	
Spartanburg	7	844	9,713,999	13,246,477	301	48	12	3,155	1,882	1,070	107	96	2,210,039	1,496,780	611,420	51,565	47,274	
Union	17	681	6,138,377	13,054,118	292	59	15	3,162	2,043	981	56	92	2,314,222	1,597,982	646,394	46,847	53,049	
York	174	20,287	\$117,177,160	\$228,012,960	296	924	200	51,462	32,277	15,900	1,774	1,511	\$36,677,388	\$24,757,336	\$10,061,971	\$1,032,131	\$826,061	

TABLE VI.—TEXTILE SUMMARY, 1919, BY COUNTING—FROM TEXTILE REPORTS, FORM NO. 23.

Counties	Capital Stock, Pa.	Total Capital in Plants	Number of Spindles	Number of Looms	Number of Running Machines	Number Bales Cotton			Tons of Coal Consumed Annually	Value of Annual Product
						8-4 to 1-16	1-16 to 1-8-16	1-8-16		
Abbeville	\$917,700	\$1,407,000	54,400	1,864	.....	12,800	.....	.....	10,500	1,088,000
Alcon	4,081,100	4,888,318	190,786	5,062	.....	43,249	.....	.....	17,470	10,944,000
Anderson	7,244,575	11,889,104	646,084	18,378	.....	108,884	2,880	.....	66,660	34,971,119
Bamberg	123,600	123,000	10,752	234	.....	1,200	.....	.....	2,184	300,000
Barnwell	.....	100,000	.....	.....	90	.....	.....	.....	200	96,000
Charleston	706,040	994,883	19,904	438	.....	6,765	880	.....	4,122	8,960,378
Cherokee	1,047,000	3,802,118	184,300	8,004	25	18,438	.....	.....	16,377	6,868,166
Chester	2,062,800	3,502,860	146,648	8,618	.....	87,800	.....	.....	13,280	7,060,000
Chesterfield	177,800	223,716	6,912	.....	40	8,640	.....	.....	300	1,100,668
Darlington	1,260,000	1,260,000	87,456	3,125	.....	6,061	.....	.....	8,000	1,280,172
Dillon	476,800	771,248	40,044	.....	.....	7,800	.....	.....	9,000	1,300,000
Edgewood	75,000	75,000	17,312	284	.....	1,600	.....	.....	3,400	240,865
Fairfield	940,000	1,690,116	30,160	16	.....	.....	8,000	.....	2,000	2,500,000
Greenville	13,440,812	18,480,970	757,476	19,559	.....	130,668	6,078	.....	72,685	28,714,244
Greenwood	4,201,100	4,201,100	320,082	5,400	.....	42,845	.....	.....	36,000	8,796,000
Kershaw	686,100	686,100	38,456	882	.....	8,300	.....	.....	7,000	1,894,000
Laurens	1,465,000	2,411,083	161,768	3,448	.....	30,600	.....	.....	10,000	6,731,511
Laurens	2,558,300	3,486,366	194,812	4,514	.....	16,164	2,700	.....	23,464	4,217,836
Lexington	333,000	974,580	28,000	812	.....	7,060	.....	.....	9,300	2,640,000
Marion	100,000	160,108	6,168	.....	.....	1,500	.....	.....	8,000	407,640
Marion	1,012,800	2,901,288	46,000	54	66	5,000	8,000	.....	8,000	4,060,000
Newberry	2,074,800	4,560,063	181,240	4,810	.....	83,100	.....	.....	14,300	8,890,856
Orangeburg	1,407,024	1,808,871	77,590	1,929	.....	11,501	.....	.....	12,550	4,019,441
Pickens	248,000	280,200	19,848	802	.....	6,880	.....	.....	4,100	1,300,000
Pickens	2,160,100	3,963,907	211,312	5,300	.....	31,484	.....	.....	22,700	8,644,589
Richland	4,005,000	4,587,740	244,600	6,504	.....	40,243	2,000	.....	17,535	13,651,539
Spartanburg	11,327,493	19,267,404	644,072	20,731	959	124,240	7,105	.....	93,546	21,180,762
Union	9,794,750	6,468,500	338,248	8,154	741	54,907	.....	.....	29,620	13,661,794
York	4,088,800	6,160,308	220,584	5,073	148	39,813	5,460	.....	17,080	12,898,114
Grand Total	\$80,018,851	\$110,613,747	4,947,644	115,180	2,092	799,604	87,548	.....	535,668	300,981,236

TABLE VI.—TEXTILE SUMMARY, 1919, BY COUNTIES—FROM TEXTILE REPORTS, FORM NO. 22.—Continued.

Counties.	Total Number of Employees.				Children Employed		Total Village Pop- ulation Excl- uded.	Horse Power			
	White		Negro		14 to 16 yrs.			Water.	Steam.	Electric, Gen- erated by Water.	Electric, Gen- erated by Steam.
	Male	Female	Male	Female	Male.	Female.					
Abbeville	318	168	59	...	27	15	1,250	...	1,200	...	1,000
Aiken	1,307	662	236	57	66	59	8,300	1,875	1,100	4,237	...
Anderson	3,355	1,797	380	34	292	223	15,320	6,600	9,446	11,700	432
Bamberg	32	29	12	...	2	1	300	...	300	...	...
Barnwell	3	...	10	22	...	...	...	...	...	...	30
Charleston	317	88	457	669	13	7	985	...	325	...	1,400
Cherokee	962	528	71	...	68	52	4,345	1,000	2,300	3,110	...
Chester	1,212	662	187	54	68	61	6,650	150	400	4,920	...
Chesterfield	66	64	6	...	3	8	146	...	...	338	...
Darlington	246	168	17	11	16	28	1,150	...	2,750	...	...
Dillon	234	145	14	...	5	7	780	...	1,065	...	...
Edgefield	54	31	32	2	4	3	300	...	740	...	...
Fairfield	150	82	42	17	15	16	476	...	1,600	...	...
Greenville	4,680	2,487	321	69	282	274	19,723	2,800	8,250	17,675	2,125
Greenwood	1,627	684	229	25	141	60	6,050	...	4,100	4,750	...
Kershaw	300	102	29	6	16	10	800	125	450	...	600
Lancaster	628	301	127	15	34	38	2,738	...	450	2,000	2,800
Laurens	805	412	115	60	42	33	4,400	...	4,259	1,500	20
Lexington	231	145	31	1	42	11	965	225	580	...	...
Marion	40	22	3	...	4	1	...	...	320	...	...
Marlboro	397	221	61	50	78	49	2,100	...	1,400	8	600
Newberry	915	610	130	61	70	67	3,350	...	1,500	5,300	...
Oconee	478	271	27	5	45	30	2,500	1,000	1,265	150	750
Orangeburg	124	79	23	2	8	5	350	...	775	...	...
Pickens	1,109	571	81	...	99	75	4,410	800	6,250	1,625	75
Richland	1,612	871	264	109	90	65	8,375	...	700	9,335	...
Spartanburg	4,690	2,477	403	5	376	237	19,437	10,985	14,223	7,033	1,540
Union	1,727	940	283	52	125	103	8,400	2,500	3,096	6,000	3,585
York	1,902	994	215	41	100	90	7,271	...	380	8,436	...
Grand Total.....	29,828	15,511	3,875	1,357	2,068	1,673	129,616	27,510	64,863	89,737	14,967

TABLE VII.—RESULTS OF FACTORY INSPECTION IN SOUTH CAROLINA

Years.	Children Employed.		
	14 to 16 Years.	12 to 14 Years.	Under 12 Years
1909	4,412	3,876	726
1910	5,099	4,096	620
1911	4,858	3,176	410
1912	5,073	3,619	...
1913	5,003	3,581	...
1914	4,945	3,435	...
1915	4,982	3,518	...
1916	5,229	3,278	...
1917	4,739	.....	...
1918	3,804	.....	...
1919	3,756	.....	...

Note.—The above statistics compiled from textile reports show a steady decrease, despite the many additional spindles and looms which have been installed since 1906.

TABLE VIII.—DIRECTORY OF COTTON SEED OIL MILLS—BY COUNTIES.—1919.

County.	Location.	Name of Oil Mill.	Title of Corporation.
Abbeville	Abbeville	The Southern Cotton Oil Co.	The Southern Cotton Oil Co.
	Antreville	*Farmers Oil Mill.	Farmers Oil Mill.
	Donalds	Donalds Oil Mill.	Donalds Oil Mill.
	Due West	Due West Oil Mill.	Due West Oil Mill.
	Lowndesville	*Lowndesville Cotton Oil Co.	Lowndesville Cotton Oil Co.
Aiken	Aiken	*Farmers Storage and Fert. Co.	Farmers Storage and Fert. Co.
Allendale	Allendale	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Anderson	Anderson	Farmers Oil Mill.	Anderson Phosphate and Oil Co.
	Anderson	Peoples Oil and Fert. Co.	Peoples Oil and Fert. Co.
	Belton	Martin Oil Co.	Martin Oil Co.
	Honea Path	Honea Path Oil Mill.	Honea Path Oil Mill.
	Pelzer	Willmont Oil Mills.	Willmont Oil Mills.
	Pendleton	Pendleton Oil Mill.	Pendleton Manufacturing Co.
	Starr	Watson Cotton Oil Mill.	Watson Cotton Oil Mill.
	Williamston	*Williamston Oil Mills.	Willmont Oil Mill.
	Bamberg	The Cotton Oil Co.	The Cotton Oil Co.
	Denmark	Denmark Oil and Fert. Co.	Denmark Oil and Fert. Co.
Denmark	Denmark	*Kelley Cotton Oil Co.	Kelley Cotton Oil Co.
Barnwell	Fairfax	*The Oil Mill and Mfg. Co.	The Oil Mill and Mfg. Co.
Calhoun	Cameron	Cameron Oil Mill.	Cameron Oil Mill.
	Fort Motte	Orangeburg Fert. Co.	Orangeburg Fert. Co.
	St. Matthews	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Charleston	Charleston	Sea Island Cotton Oil Co.	Sea Island Cotton Oil Co.
	Charleston	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Cherokee	Blacksburg	*Planters Oil Mill.	Planters Oil Mill.
	Gaffney	*Farmers Oil Mill.	Farmers Oil Mill.
	Gaffney	Victor Cotton Oil Co.	Victor Cotton Oil Co.
	Wilkinsville	Wilkinsville Cotton Oil Co.	Wilkinsville Cotton Oil Co.
Chester	Chester	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Chesterfield	Jefferson	*Jefferson Cotton Oil Co.	Jefferson Cotton Oil Co.
	Cheraw	Cheraw Oil and Fert. Co.	Cheraw Oil and Fert. Co.
Clarendon	Manning	Manning Oil Mill.	Manning Oil Mill.
	St. Paul	Clarendon Cotton Oil Co.	Clarendon Cotton Oil Co.
Colleton	Walterboro	*Walterboro Cotton Oil Co.	Walterboro Cotton Oil Co.
Darlington	Darlington	Southern Cotton Oil Co.	Southern Cotton Oil Co.
	Hartsville	Hartsville Oil Mill.	Hartsville Oil Mill.
Dorchester	St. George	Dorchester Cotton Oil Co.	Dorchester Cotton Oil Co.
Dillon	Dillon	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Edgefield	Johnston	Peoples Cotton Oil Co.	Peoples Cotton Oil Co.
Fairfield	Winnaboro	Southern Cotton Oil Co.	Southern Cotton Oil Co.
Florence	Florence	Southern Cotton Oil Co.	Southern Cotton Oil Co.
	Timmons	Timmons Oil Co.	Timmons Oil Co.
Greenville	Fountain Inn	Fountain Inn Oil Mill Co.	Fountain Inn Oil Mill Co.
	Greenville	Union Seed and Fert. Co.	Union Seed and Fert. Co.
	Greenville	Southern Cotton Oil Co.	Southern Cotton Oil Co.
	Greer	Greer Cotton Seed O. and F. Co.	Greer Cotton S. O. and Fert. Co.
	Piedmont	Saluda Oil Mill.	Willmont Oil Mills.
	Simpsonville	*Simpsonville Oil Mill.	Simpsonville Oil Mill.
	Travelers Rest	Blue Ridge Cotton Oil Co.	Blue Ridge Cotton Oil Co.

**TABLE VIII.—DIRECTORY OF COTTON SEED OIL MILLS—BY
COUNTIES.—1919.—Continued.**

County.	Location.	Name of Oil Mill.	Title of Corporation.
Greenwood	Coronaca	*Coronaca Oil Mill.....	Coronaca Oil Mill.
	Greenwood	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Ninety-Six	Ninety-Six Oil Mill.....	Ninety-Six Oil Mill.
	Troy	*Troy Oil Mill Co.....	Troy Oil Mill Co.
	Ware Shoals	Ware Shoals Oil Mill.....	Ware Shoals Mfg. Co.
Hampton	Brunson	*Brunson Cotton Oil Co.....	Brunson Cotton Oil Co.
Kershaw	Camden	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
Lancaster	Kershaw	Kershaw Oil Mill.....	Kershaw Oil Mill.
	Lancaster	Lancaster Cotton Oil Co.....	Lancaster Cotton Oil Co.
Laurens	Clinton	*Clinton Oil and Mfg. Co.....	American Agric. Chem. Co.
	Gray Court	*Gray Court Oil and Fert. Co.....	Gray Court Oil and Fert. Co.
	Laurens	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
Lee	Bishopville	Palmetto Oil Co.....	Palmetto Oil Co.
Lexington	Leesville	Leesville Cotton S. Oil Mill Co.....	Leesville Cotton Seed Oil Mill Co.
Marion	Marion	Marion Cotton Oil Co.....	Marion Cotton Oil Co.
Marlboro	Bennettsville	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Clio	Clio Oil and Fertilizer Co.....	Clio Oil and Fertilizer Co.
	McColl	Fletcher Oil Mill.....	W. B. & J. A. Fletcher.
Newberry	Little Mtn.	Little Mtn. Oil Mill and F. Co.....	Little Mtn. Oil Mill and Fert. Co.
	Newberry	Farmers Oil Mill.....	Farmers Oil Mill.
	Newberry	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Pomaria	*Pomaria Oil and Mfg. Co.....	Pomaria Oil and Mfg. Co.
	Prosperity	Prosperity Cotton Oil Mill Co.....	Prosperity Cotton Oil Mill Co.
Oconee	Seneca	Seneca Oil Mill.....	Seneca Oil Mill.
	Westminster	Westminster Oil and Fert. Co.....	Westminster Oil and Fert. Co.
	West Union	West Union Oil Mill.....	West Union Oil Mill.
Orangeburg	Rowesville	Rowesville Oil Co.....	Rowesville Oil Co.
	Orangeburg	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
Pickens	Easley	Easley Oil Mill.....	Easley Oil Mill Co.
	Liberty	Liberty Oil Mill.....	Liberty Oil Mill.
	Pickens	*Pickens Oil Mill Co.....	Pickens Oil Mill Co.
Richland	Columbia	Union Seed and Fert. Co.....	Union Seed and Fert. Co.
	Columbia	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Columbia	Swift & Co. (Oil Mill).....	Swift & Co.
Saluda	Ridge Spring	Ridge Spring Oil Mill.....	Ridge Spring Oil Mill.
Spartanburg	Campobello	Campobello Oil Mill.....	Campobello Oil Mill.
	Spartanburg	Caldwell & Co.....	Caldwell & Co.
	Chesnee	Chesnee Oil Mill.....	Campobello Oil Mill.
	Cowpens	Cowpens Cotton Oil Co.....	Cowpens Cotton Oil Co.
	Cross Anchor	Cross Anchor Oil Co.....	Cross Anchor Oil Co.
	Fairforest	*Fairforest Oil Co.....	Fairforest Cotton Oil Co.
	Pauline	Pauline Oil and Fert. Co.....	Pauline Oil and Fert. Co.
	Wellford	*Tyger Shoals Milling Co.....	Tyger Shoals Milling Co.
	White Stone	Rich Hill Oil Mill Co.....	Rich Hill Oil Mill Co.
	Woodruff	Woodruff Oil and Fert. Co.....	Woodruff Oil and Fert. Co.
	Spartanburg	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Sumter	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
	Union	Carlisle Cotton Oil Co.....	Carlisle Cotton Oil Co.
	Jonesville	Jonesville Oil Mill.....	Jonesville Oil Mill.
	Union	Southern Cotton Oil Co.....	Southern Cotton Oil Co.
York	Clover	Clover Cotton Oil and Gin Co.....	Clover Cotton Oil and Gin Co.
	Rock Hill	Highland Park Mfg. Co. (O. Mill).....	Highland Park Mfg. Co.
	York	Yorkville Cotton Oil Co.....	Yorkville Cotton Oil Co.

**TABLE IX.—COMPARISON OF COTTON SEED OIL MILL STATISTICS,
1917, 1918 AND 1919.—FROM SCHEDULE REPORTS.**

	1917	1918	1919	Increase	Decrease
Number of Establishments.....	87	85	85		
Capital invested.....	\$4,176,889	\$4,425,897	\$5,312,990	\$887,093	
Value of annual product.....	\$20,172,715	\$28,584,827	\$39,633,724	\$11,048,895	
Number of salaried males (reported).....	301	293	347	54	
Number of salaried females (reported).....	8	17	29	12	
Average number of persons employed.....	2,517	2,580	3,266	686	
Number of males over 16 years of age.....	2,517	2,502	3,127	625	
Number of females over 16 years of age.....		71	137	66	
Number of males under 16 years of age.....		7	2		5
Number females under 16 years of age.....					
Total wages, not including salaries mgra.....	\$688,891	\$1,060,024	\$1,092,426	\$912,402	
Wages paid males over 16 years of age.....	\$688,891	\$1,062,436	\$1,917,304	\$884,868	
Wages paid females over 16 years of age.....		\$15,438	\$41,674	\$29,236	
Wages paid males under 16 yrs. of age.....		\$2,150	\$448		\$1,702
Wages paid females under 16 yrs. of age.....					

TABLE X.—COTTON SEED OIL MILLS BY COUNTIES, 1919.—FROM SCHEDULE REPORTS.

Counties.	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number Salaried Employees.		Average Number Per-sons Employed.	Number.				Total Wages, Not In-cluding Salaries of Managers, Paid During the Year.	Wages.			
				Females.			Over 16 Years.		Under 16 Years.			Over 16 Years.		Under 16 Years.	
							Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.
Abbeville	\$121,900	\$607,531	176	13		114	114				\$38,087	\$38,087			
Aiken	72,500	175,665	156	3		12	12				19,525	19,525			
Alendale	8,540	239,835	126	3	2	42	42				20,712	20,712			
Anderson	273,000	2,034,471	181	25	1	239	229	10			113,132	91,879			
Bamberg	150,600	625,446	154	7		80	80				34,404	34,404			
Calhoun	177,325	749,742	125	11		72	69	3			29,586	28,876			
Charleston	290,000	2,428,545	245	15		206	165	41			141,467	129,928			
Cheerokee	70,000	198,000	151	4	1	31	30	1			12,000	11,400			
Chester	80,000	407,015	164	5		50	45	5			21,560	20,455			
Chesterfield	165,300	1,000,000	156	4	1	60	60				21,582	21,582			
Clarendon	115,000	700,000	180	7	1	64	64				32,260	32,260			
Darlington	175,000	2,138,205	173	20	3	143	143	2			121,271	119,271			
Dillon	110,000	667,090	249	3	1	80	80				51,109	51,109			
Dorchester	64,000	290,000	180	6		35	35				15,896	15,896			
Edgefield	30,000	300,000	180	3		30	30				15,250	15,250			
Fairfield	50,000	228,243	220	1		19	19				14,008	14,008			
Florence	80,000	1,120,312	147	4	2	96	96				63,721	63,721			
Greenville	309,480	2,423,761	175	18	3	223	217	6			114,531	110,931			
Greenwood	566,803	1,526,718	165	16	9	196	186				95,653	95,653			
Kershaw	113,500	2,325,724	181	11	2	112	100	12			81,739	77,099			
Lancaster	215,297	1,065,628	230	7	1	64	59	5			45,975	43,353			
Laurens	30,000	350,000	200	4	2	35	33	2			24,677	23,667			
Lee	50,000	725,000	250	4		40	40				39,093	39,093			
Lexington	55,700	881,492	159	11	1	60	60				24,155	24,155			
Marion	35,000	675,843	140	5		60	57	3			30,139	29,579			
Marlboro	120,000	870,830	202	6		68	68				53,470	53,470			
Newberry	119,510	1,161,989	184	11	2	135	123	5	2		68,960	67,742			
Oconee	140,000	690,000	177	12	1	69	65	4			42,840	41,940			
Orangeburg	93,100	917,394	143	7	1	53	55	3			43,877	43,609			
Pickens	255,000	255,000	173	8		40	40				24,464	24,464			
Richland	582,180	7,104,168	199	32	2	319	288	31			281,207	270,015			
Saluda	50,000	100,000	90	2		10	10				3,000	3,000			
Spartanburg	418,325	2,114,579	137	38		230	230	4			117,100	115,341			
Sumter	80,000	993,305	152	4		56	56				48,348	48,348			
Union	121,150	536,378	117	9		63	63				43,885	43,885			
York	143,100	1,067,856	146	8		79	79				42,194	42,194			
Total.	\$5,312,900	\$89,683,724	171	347	29	3,206	3,127	137	2		\$1,992,428	\$1,947,304		448	

TABLE XI.—CONSOLIDATED SUMMARY OF ALL INDUSTRIES IN SOUTH CAROLINA, 1919.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Years.		Under 16 Year.	
							Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.
Bakery Products	\$459,356	\$2,113,190	311	29	3	441	375	61	2	3	\$392,446	\$328,835	\$32,072		
Boxes, Baskets, etc.	1,765,118	2,941,165	251	66	19	1,128	870	250	6	2	665,066	599,814	1,834		
Brick and Tile	623,200	1,241,408	176	41	...	488	478	...	10	...	283,606	259,850	4,256		
Canneries	249,881	1,927,378	162	11	...	832	113	219	...	...	39,235	25,095	14,140
Carrriages and Wagons	373,000	1,358,000	305	14	14	129	124	5	...	...	99,664	96,664	3,000
Clothing	188,500	1,434,785	225	13	6	296	31	265	2	8	179,098	24,168	162,811		
Coffins and Caskets	95,659	265,007	263	3	1	70	60	1	...	...	65,338	65,378	760
Confectionery	383,514	1,299,120	241	14	4	218	167	42	6	3	145,842	126,576	20,829		
Creameries	59,590	250,000	258	2	2	30	22	...	...	...	41,570	35,916	1,290
Electricity	83,117,703	5,870,211	349	232	36	1,434	1,380	54	...	...	1,719,880	1,473,763	39,113
Fertilizers	6,190,841	24,458,514	901	219	31	2,969	2,856	4	9	...	2,934,980	2,228,664	668		
Foundries and Machine Shops	1,825,251	7,605,830	801	198	30	2,577	2,510	65	2	...	3,456,570	52,860	560		
Furniture	1,654,046	631,773	993	9	...	171	136	35	...	...	114,763	98,665	16,100
Flour and Grits	1,407,447	9,068,002	127	47	3	609	604	...	2	...	212,563	210,708	1,940		
Gas	1,163,527	445,685	365	20	3	91	88	...	...	...	97,490	96,009	2,481
Glass	139,400	421,282	231	5	3	114	86	26	2	...	145,778	137,733	11,046		
Harness and Leather	179,091	392,700	243	3	...	114	86	26	2	...	79,579	66,330	12,596		
Ice	1,316,760	1,237,360	266	89	...	467	467	...	...	...	305,882	305,882	36,396
Lumber and Timber	20,871,772	18,153,246	153	388	46	11,819	11,714	96	19	...	6,747,316	6,704,908	36,396		
Mattress and Springs	121,553	227,518	279	7	2	67	53	14	...	...	45,645	36,434	9,211
Mines and Mining	2,616,668	578,966	285	23	...	462	460	2	...	...	298,882	298,570	312
Minerals and Soda Water	2,231,518	4,162,985	263	67	10	692	671	9	12	...	468,209	449,248	6,095		
Monuments and Stone	490,969	753,531	256	29	4	382	382	...	...	...	334,433	334,433	2,936
Oil Mills	5,312,990	39,633,724	171	317	29	3,906	3,127	137	2	...	1,992,426	1,947,304	44,674		
Pat. Medicines and Compounds	1,461,689	828,643	242	7	...	168	132	31	...	...	137,368	120,402	448
Printing and Publishing	1,912,826	2,773,512	304	218	44	1,271	910	167	191	3	1,128,562	968,812	16,986		
Rubber Seals and Stamps	131,350	228,614	273	2	78	58	58	20	...	...	63,699	50,567	35,463
Textiles	117,177,166	228,012,960	296	924	200	51,462	82,277	15,900	1,774	1,511	36,677,388	24,757,185	1,032,131		
Tobacco and Cigars	235,165	708,065	362	16	4	356	45	282	2	27	180,943	37,231	132,264		
Turpentine and Rosin	81,000	274,628	142	7	...	91	89	2	...	...	45,577	44,542	1,036
Total	\$201,237,320	\$355,181,322	252	3,024	500	81,807	80,501	17,708	2,046	1,557	\$68,519,008	\$45,730,244	\$10,861,185		
													\$840,726		

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Per-sons Employed.	Number.				Total Wages, Not In-cluding Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Yrs.		Under 16 Yrs.	
							Male.	Female.	Male.	Female.		Male.	Female.		
BAKERY PRODUCTS.															
Aiken	\$800	\$10,000	312			3	3	2			\$3,068				
Anderson	92,500	337			11	9					11,126				
Bamberg	600	313													
Beaufort	3,200	293			4	4									
Charleston	148,950	886,710	345	0	2	170	137	31	1	1	1,448				
Chester	3,000	26,050	311			6	6								
Chesterfield	2,000	3,030	310			2	2								
Clarendon	10,000	162,000	312			48	46	2							
Colleton	25,000	20,000	300			4	3	1							
Darlington	3,500	22,000	365			6	6								
Dorchester	1,800	28,000	312			5	4	1							
Fairfield	1,000	5,000	312			2	1								
Florence	15,500	115,000	310			19	14	3	1	1	16,686				
Greenville	35,000	100,000	313			23	22	1			18,000				
Greenwood	5,000	40,000	332	5		12	10	2			7,463				
Horry	750	8,000	285			1	1								
Kershaw	100	3,000	240			1	1								
Marion	7,000	18,000	305			3	2	1							
Marlboro	750	1,500	310												
Newberry	300	3,000	310												
Oconee	16,000	8,000	288			2	1	1							
Richland	42,500	268,300	332	2	1	51	45	6			1,550				
Spartanburg	101,500	165,000	313	4		63	44	8		1	56,433				
Sumter	11,000	8,320	250								50,388				
Union	5,000	55,000	365			5	4	1							
York	10,000	50,000	300			10	10				6,240				
											6,000				
Total	\$459,356	\$2,113,190	311	29	3	441	375	61	2	3	\$362,446				
											\$328,835				
											\$32,072				
											\$750				
BOXES, BASKETS, ETC.															
Aiken	\$61,700	300	3			75	51	24			\$41,810				
Barnwell	10,000	60,000	1			8	8								
Beaufort	25,000	65,221	223	1	2	40	30	10			25,452				
											24,308				
											1,144				

Charleston	226,417	392,054	252	8	3	155	138	19			84,251	71,891	12,360	
Cherokee	9,000	2,000	100				125	8				67,263	2,319	
Chesterfield	110,722	310,874	227	4	2	133	113	146	5	2	154,763	138,000	15,749	\$758
Darlington	770,000	703,708	252	22	5	296	1				400			\$256
Dillon	400	1,000	312				1							
Greenville	134,500	226,150	277	5	1	73	65	7	1		57,928	53,952	3,400	576
Horry	96,000	250,000	275	5		92	91	1			53,116	52,116	1,000	
Kershaw	6,000	50,000	250	3		20	20				10,000	10,000		
Laurens	10,000	35,000	300	3		15	15				12,000	12,000		
Lexington	40,000	80,000	300	3	1	100	90	10			40,000	38,000	4,000	
Newberry	1,000	2,500	312				1				600	600		
Newton	3,000	8,000	200				10				5,630	5,630		
Oconee	3,000	8,000	200				10				5,630	5,630		
Orangeburg	41,946	214,301	275	4	2	52	43	9			37,616	31,176	6,440	
Spartanburg	239,933	346,357	307	4	3	84	68	16			60,678	52,478	8,200	
Williamsburg	500	4,000	150			3	3				1,240	1,240		
Total	\$1,785,118	\$2,941,165	251	66	19	1,128	870	250	6	2	\$665,066	\$509,814	\$63,602	\$1,334
BRICK AND TILE.														
Alken	\$8,000	\$89,275	138			34	34				\$13,017	\$13,017		
Anderson	12,000	6,800	48	1		12	12				2,665	2,665		
Berkeley	15,000	16,000	90			12	12				3,150	2,700		
Chesterfield	12,000	450,000	200	4		17	17	5			12,600	12,600		\$450
Darlington	60,000	60,000	200	4		25	25				13,000	13,000		
Dorchester	56,500	58,001	145	2		62	62				23,553	23,553		
Greenville	2,000	40,000	310	3		9	9				11,000	11,000		
Greenwood	38,000	66,000	75	2		61	61				19,200	19,200		
Horry	3,000	4,200	30			10	10				870	870		
Lee	12,000	16,907	180	3		5	5				800	800		
Lexington	100,000	113,621	300	2		20	20				34,589	34,589		
Marion	55,000	136,183	292	5		60	60				34,800	34,800		
Marlboro	61,000	75,085	195	5		40	40				21,310	21,310		
Orangeburg	10,000	30,000	200			17	17				8,250	8,250		
Pickens	3,000	2,000	10			12	12				300	300		
Richland	126,700	80,900	330	8		56	51	5			52,782	48,976	3,806	
Sumter	40,000	39,428	132	3		29	29				8,920	8,920		
York	9,000	7,000	312			4	4				3,000	3,000		
Total	\$623,200	\$1,241,403	175	41		488	478		10		\$293,606	\$259,350		\$4,256
CANNERIES.														
Beaufort	\$68,500	\$182,276	90	5		268	79	189			\$24,155	\$15,015	\$9,140	
Charleston	93,000	30,000	175	5		50	20	30			10,000	5,000	5,000	
Chesterfield	9,000													
Clarendon	2,500													
Greenville	64,740													
Horry	5,000	30,000	385	1		10	10				5,000	5,000		

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested	Value of Annual Product	Number of Days Plant Operated	Number of Salaried Employees		Average Number of Persons Employed	Number				Total Wages, Not Including Salaries of Managers	Wages			
				Male	Female		Over 16 Yrs.		Under 16 Yrs.			Over 16 Years.		Under 16 Years.	
							Male	Female	Male	Female		Male	Female		
CANNERIES.—Con.															
Jasper	\$7,000	.....	20	.....	.....	4	4	.....	.....	.....	80	80	.....	.....	.....
McCormick	141	102	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	\$249,881	\$192,378	162	11	.....	382	113	219	.....	.....	\$39,235	\$25,005	\$14,140	.....	.....
CARRIAGES AND WAGONS, AUTOMOBILES, ETC.															
Laurens	\$5,500	\$33,000	305	.....	.....	10	10	.....	.....	.....	\$10,375	\$10,375	.....	.....	.....
Orangeburg	15,000	5,000	310	.....	.....	4	4	.....	.....	.....	4,000	4,000	.....	.....	.....
York	\$62,500	1,300,000	300	41	14	115	110	5	.....	.....	85,289	85,289	3,000	.....	.....
Total	\$373,000	\$1,338,000	305	41	14	129	124	5	.....	.....	\$99,664	\$95,664	\$3,000	.....	.....
CLOTHING.															
Charleston	\$75,000	\$750,000	80	6	2	150	16	134	.....	.....	\$104,000	\$13,000	\$91,000	.....	.....
Chester	10,000	51,535	301	2	.....	15	2	7	2	4	9,023	1,164	7,142	\$905	\$512
Greenville	105,500	633,250	295	5	4	131	13	114	.....	.....	65,073	10,004	54,969	.....	1,400
Total	\$189,500	\$1,434,785	225	13	6	296	31	255	2	8	\$179,096	\$24,168	\$152,811	\$905	\$1,912
COFFINS AND CASKETS.															
Sumter	\$80,659	\$215,007	200	3	1	53	57	1	.....	.....	\$51,338	\$50,578	\$780	.....	.....
Lexington	15,000	50,000	230	.....	.....	12	12	.....	.....	.....	15,000	15,000	.....	.....	.....
Total	\$95,659	\$265,007	235	3	1	70	69	1	.....	.....	\$66,338	\$65,578	\$780	.....	.....
CONFECTIONERY.															
Abbeville	\$4,000	\$12,000	313	.....	.....	6	6	.....	.....	.....	\$1,700	\$1,700	.....	.....	.....
Charleston	66,227	372,372	295	3	.....	87	64	14	6	3	56,004	47,234	7,075	\$1,390	\$855
Clarendon	500	1,500	50	.....	.....	2	2	.....	.....	.....	500	500	.....	.....	.....
Darlington	4,500	3,500	105	.....	.....	3	2	1	.....	.....	2,430	2,000	430	.....	.....
Florence	50,950	150,300	167	3	3	13	14	4	.....	.....	14,810	10,000	4,810	.....	.....
Georgetown	500	1,300	313	.....	.....	1	1	.....	.....	.....	300	300	.....	.....	.....

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Per-	Number.				Total Wages, Not In-cluding Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Yrs.		Under 16 Year.	
							Male.	Female.	Male.	Female.		Male.	Female.		
ELECTRICITY.—Con.															
Lexington	45,000	8,000	365	2			2	5	1		1,600	1,600	1,600		
Marion	150,396	49,355	365				6	12	1		6,234	5,484	770		
Marlboro	137,000	99,400	363	1	1		13	6			11,860	11,860	500		
Newberry	171,811	23,019	363	4			6	4			4,000	4,000			
Oconee	128,500	15,015	343				4	4			3,780	3,780			
Orangeburg	121,431	68,500	341	13	1		21	21			15,586	15,586			
Pickens	14,100	4,966	365				2	2			1,508	1,508			
Richland	6,444,000	1,076,600	365	1			64	64			81,050	81,050			
Saluda	75,000	15,000	365				7				9,000	9,000			
Spartanburg	7,055,500	190,519	365	26			182	179	3		194,561	191,861	2,700		
Sumter	900,000	75,000	365	3	1		12	11			14,820	14,100	720		
Union	750,000	161,425	327	2			16	16	1		7,127	7,127			
Williamsburg	20,700														
York	1,880,000	184,174	365	14	2		35	35			25,091	25,091			
Total	\$33,117,703	\$5,879,214	319	232	36	1,434	1,380	54			\$1,712,880	\$1,673,768	\$39,112		
FERTILIZERS.															
Aiken	\$7,000	\$279,835	153	8	1	57	57	57			\$27,362	\$27,362			
Allendale	28,540	1,114,232	200	13	1	68	68	68			45,769	45,769			
Anderson	175,000	26,000	100	2	20	30	20	20			10,960	10,960			
Barnwell	10,000	587,168	150	4		34	34	34			4,000	4,000			
Calhoun	110,000	10,584,863	282	92	2	1,535	1,525	1	9		1,824,285	1,818,389	\$206	\$5,678	
Charleston	2,937,142	382,853	225			61	61	61			38,702	38,702			
Cheerock	150,000	677,747	312	3	34	34	34	34			21,722	21,722			
Chester	658,000	650,000	200	4	1	40	40	40			20,458	20,458			
Clarendon	115,139	152,672	292	4		134	134	134			69,243	69,243			
Colleton	100,000	502,724	300	7	1	40	40	40			8,000	8,000			
Darlington															
Dillon		39,660													
Edgefield		250,000	200			10	10	10			6,000	6,000			
Fairfield		15,119													
Florence		61,436													

Greenville	225,000	731,650	187	4	120	120	120	82,534	82,534	.....
Greenwood	133,546	335,492	180	1	10	10	10	8,067	8,067	.....
Kershaw	100,000	4,813	.....	.....	.....	.....	.....	.....	.....	.....
Lancaster	100,000	697,583	300	1	32	32	32	15,519	15,519	.....
Florence	100,000	254,568	200	2	45	45	45	16,849	16,849	.....
Lexington	198,351	327,076	300	10	100	100	100	115,611	115,611	.....
Marion	60,000	231,765	138	4	40	40	40	18,000	18,000	.....
Marlboro	25,000	100,000	100	5	20	20	20	5,005	5,005	.....
Newberry	.....	49,138	.....	.....	.....	.....	.....	.....	.....	.....
Oconee	10,000	7,590	90	1	2	2	2	1,032	1,032	.....
Orangeburg	179,700	617,429	137	11	55	52	3	19,063	18,583	480
Pickens	5,000	40,030	90	1	5	5	5	1,250	1,250	.....
Richland	476,390	3,541,489	243	27	318	318	318	294,876	294,876	.....
Spartanburg	210,833	1,694,061	258	5	64	64	64	74,519	74,519	.....
Union	.....	104,214	.....	.....	.....	.....	.....	.....	.....	.....
York	25,000	200,000	120	2	25	25	25	6,774	6,774	.....
Total.....	\$6,120,841	\$24,458,214	201	212	31	2,869	2,856	\$2,234,930	\$2,228,564	\$5,678
FOUNDRY & MACHINE SHOPS.										
Anderson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bamberg	\$32,250	\$68,467	305	.....	32	32	32	\$29,600	\$29,600	.....
Charleston	2,000	3,500	300	.....	2	2	2	1,600	1,600	.....
Cherokee	455,528	1,534,291	306	28	581	563	18	785,512	774,325	11,187
Chester	5,000	10,000	312	.....	2	2	2	1,800	1,800	.....
Chesterfield	12,000	26,000	300	2	9	8	1	12,245	11,645	600
Clarendon	1,000	2,500	300	.....	1	1	1	450	450	.....
Darlington	7,400	54,000	300	2	6	5	1	3,300	3,100	200
Florence	296,000	2,444,719	322	35	765	750	15	1,111,382	1,096,203	15,089
Greenville	332,000	529,000	304	15	4	176	175	292,846	291,886	960
Greenwood	20,000	52,592	285	3	15	14	1	11,464	11,104	360
Horry	3,000	7,850	300	.....	6	6	6	4,750	4,750	.....
Laurens	800	2,400	313	.....	1	1	1	1,400	1,400	.....
Richland	571,123	2,582,339	306	97	883	834	29	1,344,363	1,319,943	24,420
Spartanburg	44,444	74,824	304	3	32	32	32	25,063	25,063	.....
Sumter	50,706	85,863	300	5	1	50	49	36,790	36,166	624
York	20,000	25,000	295	3	1	15	15	11,925	11,925	.....
Hampton	2,000	2,500	.....	.....	1	1	1	1,080	1,080	.....
Total.....	\$1,825,251	\$7,505,830	301	193	30	2,577	2,510	\$3,583,570	\$3,532,130	\$52,880
FURNITURE.										
Aiken	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chesterfield	\$61,700	\$190,000	300	3	75	51	24	\$44,810	\$35,760	\$9,050
Greenville	45,000	84,158	300	1	27	25	2	21,062	20,452	610
Orangeburg	15,800	38,319	206	1	15	15	15	10,977	10,977	.....
Pickens	41,946	214,301	275	4	52	43	9	37,616	31,176	6,440
Total.....	1,500	3,000	.....	.....	2	2	2	300	300	.....
Total.....	\$165,946	\$331,778	293	9	171	136	35	\$114,765	\$98,665	\$16,100

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Persons Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Male.	Female.	Male.	Female.
							Male.	Female.	Male.	Female.					
FLOUR AND GRIST MILLS.															
Abbeville	\$5,150	\$63,392	178	.....	.....	.....	2	2	.....	.....	\$500	.....	.....	.....
Aiken	1,600	2,000	155	.....	.....	.....	.....	.....	.....	.....	150	.....	.....	.....
Allendale	4,500	6,770	40	.....	.....	8	8	8	.....	.....	537	.....	.....	.....
Anderson	44,150	62,400	199	.....	.....	8	8	8	.....	.....	4,840	.....	.....	.....
Bamberg	11,350	5,173	38	.....	.....	13	13	13	.....	.....	1,150	.....	.....	.....
Barnwell	8,000	20,600	112	.....	.....	2	2	2	.....	.....	900	.....	.....	.....
Beaufort	1,000	4,000	25	.....	.....	2	2	2	.....	.....	100	.....	.....	.....
Berkeley	4,350	9,945	52	.....	.....	8	8	8	.....	.....	323	.....	.....	.....
Calhoun	3,750	3,120	62	.....	.....	4	4	4	.....	.....	423	.....	.....	.....
Charleston	514,884	1,000,873	223	10	.....	71	71	71	.....	.....	25,582	.....	.....	.....
Cherokee	13,000	4,740	6	.....	.....	1	1	1	.....	.....	50	.....	.....	.....
Chester	15,300	23,900	133	.....	.....	13	13	13	.....	.....	3,574	.....	.....	.....
Chesterfield	15,800	18,160	113	.....	.....	8	8	8	.....	.....	2,765	.....	.....	.....
Clarendon	18,700	19,432	66	.....	.....	9	9	9	.....	.....	1,610	.....	.....	.....
Colleton	4,550	6,940	85	.....	.....	6	6	6	.....	.....	925	.....	.....	.....
Darlington	28,720	160,846	141	2	.....	20	17	1	.....	.....	5,432	.....	200	.....
Dillon	2,050	13,890	150	1	.....	26	25	1	.....	.....	20,350	.....	800	.....
Dorchester	4,638	5,950	48	.....	.....	12	12	.....	.....	.....	715	.....	.....	.....
Edgefield	7,100	52,400	304	.....	.....	17	12	.....	.....	.....	2,450	.....	.....	.....
Fairfield	5,775	12,300	80	.....	.....	7	7	.....	.....	.....	1,725	.....	.....	.....
Florence	38,950	40,280	165	.....	.....	16	16	.....	.....	.....	6,088	.....	.....	.....
Georgetown	8,500	3,240	51	.....	.....	4	4	.....	.....	.....	290	.....	.....	.....
Greenville	74,005	479,173	959	7	1	34	34	.....	.....	.....	18,333	.....	.....	.....
Hampton	1,950	6,500	130	.....	.....	8	8	.....	.....	.....	470	.....	.....	.....
Hannibal	6,050	18,000	74	.....	.....	13	13	.....	.....	.....	766	.....	.....	.....
Horry	4,693	15,650	82	.....	.....	7	7	.....	.....	.....	656	.....	.....	.....
Jasper	4,900	7,220	87	.....	.....	8	8	.....	.....	.....	1,758	.....	.....	.....
Kershaw	5,700	10,200	116	.....	.....	10	10	.....	.....	.....	1,660	.....	.....	.....
Lancaster	4,300	16,500	136	.....	.....	15	15	.....	.....	.....	1,833	.....	.....	.....
Florence	11,650	22,500	179	.....	.....	12	12	.....	.....	.....	1,925	.....	.....	.....
Lee	8,500	4,500	57	.....	.....	6	6	.....	.....	.....	1,750	.....	.....	.....
Lexington	30,310	84,830	144	.....	.....	17	17	.....	.....	.....	4,766	.....	.....	.....
McCormick	40,500	39,100	221	1	.....	5	5	.....	.....	.....	1,900	.....	.....	.....

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Per- sons Employed.	Number.				Total Wages, Not In- cluding Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Male.	Female.	Male.	Female.
							Male.	Female.	Male.	Female.					
ICE.—Continued.															
Beaufort	\$47,000	\$42,492	275	4	.....	19	19	.....	.....	.....	\$14,986	.....	.....	.....	.....
Charleston	155,750	263,986	272	1	.....	108	108	.....	.....	.....	62,715	.....	.....	.....	.....
Chester	20,000	26,458	240	.....	.....	18	18	.....	.....	.....	6,026	.....	.....	.....	.....
Colleton	25,000	20,000	300	1	.....	6	6	.....	.....	.....	6,000	.....	.....	.....	.....
Darlington	20,000	19,000	365	1	.....	6	6	.....	.....	.....	4,650	.....	.....	.....	.....
Dillon	10,000	27,500	150	.....	.....	6	6	.....	.....	.....	6,750	.....	.....	.....	.....
Florence	30,000	8,000	180	.....	.....	9	9	.....	.....	.....	9,000	.....	.....	.....	.....
Greenville	24,000	45,600	290	.....	.....	23	23	.....	.....	.....	12,968	.....	.....	.....	.....
Greenwood	44,832	58,318	210	3	.....	16	16	.....	.....	.....	9,125	.....	.....	.....	.....
Lancaster	12,000	9,000	365	2	.....	6	6	.....	.....	.....	4,650	.....	.....	.....	.....
Laurens	4,500	9,000	150	.....	.....	10	10	.....	.....	.....	2,400	.....	.....	.....	.....
Marlboro	25,000	25,000	300	1	.....	9	9	.....	.....	.....	5,571	.....	.....	.....	.....
Newberry	5,968	11,717	150	.....	.....	4	4	.....	.....	.....	1,135	.....	.....	.....	.....
Orangeburg	20,000	23,725	365	.....	.....	8	8	.....	.....	.....	7,883	.....	.....	.....	.....
Pickens	.....	2,960	200	.....	.....	1	1	.....	.....	.....	478	.....	.....	.....	.....
Richland	503,218	296,708	286	10	.....	105	105	.....	.....	.....	115,083	.....	.....	.....	.....
Spartanburg	174,241	126,902	220	7	.....	47	47	.....	.....	.....	89,313	.....	.....	.....	.....
Union	65,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York	25,000	22,000	220	1	.....	20	20	.....	.....	.....	8,500	.....	.....	.....	.....
Total	\$1,315,760	\$1,237,360	266	39	.....	487	487	.....	.....	.....	\$365,882	.....	.....	.....	.....
LUMBER AND TIMBER PRODUCTS.															
Abbeville	\$750	\$2,400	60	.....	.....	3	3	.....	.....	.....	\$270	.....	.....	.....	.....
Aiken	556,100	519,204	161	10	.....	235	235	.....	.....	.....	159,802	.....	.....	.....	.....
Anderson	105,000	301,100	266	14	1	119	119	.....	.....	.....	104,060	.....	.....	.....	.....
Bamberg	382,500	604,000	221	20	5	388	385	3	.....	.....	336,553	.....	1,740	.....	.....
Barnwell	18,300	41,640	186	1	.....	187	186	1	.....	.....	84,138	.....	200	.....	.....
Beaufort	100,000	116,000	145	.....	.....	36	36	.....	.....	.....	16,000	.....	.....	.....	.....
Berkeley	24,800	97,220	71	.....	.....	55	55	.....	.....	.....	16,966	.....	.....	.....	.....
Calhoun	21,300	24,900	112	.....	.....	29	29	.....	.....	.....	12,420	.....	.....	.....	.....
Charleston	2,760,500	1,890,708	240	83	8	1,145	1,113	32	.....	.....	449,047	.....	.....	3,015	.....

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Years.		Under 16 Years.	
							Male.	Female.	Male.	Female.		Male.	Female.		
MINES AND MINING.															
Aiken	\$59,466	\$49,339	264	3		47	45	2			\$23,582	\$23,920	\$312		
Charleston	2,406,200	484,881	192	16		322	322				227,536	227,536			
Cherokee	50,000	31,945	227	2		40	40				21,617	21,617			
Richland	90,000	12,824	300	3		50	50				14,712	14,712			
Greenwood	8,000		198			3	3				1,485	1,485			
Total	\$2,616,666	\$578,986	255	23		462	460	2			\$288,862	\$248,570	\$312		
MINERAL AND SODA WATER.															
Abbeville	\$90,000	\$48,680	310	1		6	4		2		\$4,828	\$3,840		\$488	
Aiken	100,200	1,000	27												
Allendale	48,510	154,003	286	8		38	38				17,118	17,118			
Anderson	7,700	51,000	300			13	12	1			7,786	6,836	1,900		
Bamberg	16,000	50,000	310			12	12				7,800	7,800			
Barnwell	24,000	75,622	242			15	13	2			23,940	24,940	1,000		
Beaufort	6,000	14,000	310			7	7				6,300	6,300			
Calhoun	118,700	297,900	318	7	1	35	33	2			23,410	23,110	800		
Charleston	5,000	10,000	300			4	4				2,326	2,326			
Chester	21,500	71,325	300	4	2	16	16				9,898	9,898			
Chesterfield	6,800	31,303	247			5	5				4,120	4,120			
Clarendon	5,000	10,000	270			2	2				1,200	1,200			
Darlington	21,500	36,500	270			15	15				4,550	4,550			
Dillon	5,400	30,800	290	1		4	4				3,350	3,350			
Edgefield	108,500	355,190	290	3		36	32		2		33,251	32,650		\$980	
Fairfield	122,500	110,000	273	4	1	31	30	1	4		23,189	23,469	750	601	
Florence	7,000	13,500	290			8	8				3,297	3,297			
Georgetown	305,620	516,444	296	10	3	61	61				35,076	35,076			
Greenville	43,680	205,950	305	3		24	24				8,984	8,984			
Greenwood	7,200	40,980	244			9	9				3,372	3,372			
Hampton	10,000	30,000	300			6	6				4,300	4,300			
Horry															
Jasper															

Kershaw	36,500	53,200	280	1	.....	13	13	.....	.....	.....	5,160	5,160	.....
Lancaster	9,735	34,000	806	1	.....	8	8	.....	.....	.....	4,454	4,454	.....
Laurens	22,000	59,698	261	2	2	11	10	.....	1	.....	5,240	5,240	241
Lee	6,000	30,000	365	.....	.....	5	5	.....	.....	.....	1,500	1,500	.....
Lexington	36,300	61,374	196	.....	.....	15	15	.....	.....	.....	6,200	6,200	.....
Marion	21,800	88,002	290	3	.....	19	19	.....	.....	.....	10,602	10,602	.....
Marlboro	42,000	60,014	305	.....	.....	8	8	.....	1	.....	8,290	8,290	200
Newberry	12,000	49,211	272	.....	1	16	16	.....	.....	.....	7,482	7,482	.....
Oconee	9,000	25,680	270	2	.....	5	5	.....	.....	.....	2,016	2,016	.....
Orangeburg	81,573	197,683	306	4	.....	24	24	.....	.....	.....	17,337	17,337	.....
Richland	105,000	584,758	285	6	.....	78	77	.....	1	.....	66,684	61,384	1,300
Saluda	1,200	2,500	175	.....	.....	2	2	.....	.....	.....	200	200	.....
Spartanburg	95,000	295,738	278	2	.....	49	48	.....	1	.....	37,276	35,971	1,305
Sumter	665,000	337,831	233	4	.....	53	53	.....	.....	.....	39,809	39,809	.....
Union	29,500	61,000	215	1	.....	19	17	.....	2	.....	7,675	7,315	390
Williamsburg	2,000	9,054	266	1	.....	5	4	.....	1	.....	1,504	1,238	266
York	9,750	36,000	200	.....	.....	9	9	.....	.....	.....	8,400	8,400	.....
Total	\$2,231,518	\$4,162,285	293	67	10	692	671	9	12	.....	\$458,300	\$449,248	\$6,025
MONUMENTS AND STONE.													
Alten	\$200	\$3,500	120	1	.....	5	5	.....	.....	.....	81,200	81,200	.....
Anderson	10,200	23,647	295	.....	.....	3	3	.....	.....	.....	9,030	9,030	.....
Charleston	15,000	20,683	263	.....	.....	14	14	.....	.....	.....	88,024	88,024	.....
Chester	3,000	12,000	300	.....	.....	4	4	.....	.....	.....	3,200	3,200	.....
Darlington	2,500	38,000	300	5	.....	45	45	.....	.....	.....	6,700	6,700	.....
Dillon	5,000	21,500	100	.....	.....	1	1	.....	.....	.....	300	300	.....
Edgelyield	5,600	21,384	235	3	.....	25	25	.....	.....	.....	12,568	12,568	.....
Fairfield	21,000	173,339	234	3	1	46	46	.....	.....	.....	26,480	26,480	.....
Florence	2,000	10,000	300	1	.....	6	6	.....	.....	.....	1,700	1,700	.....
Greenville	5,000	40,000	300	2	1	12	12	.....	.....	.....	12,700	12,700	.....
Greenwood	12,500	45,000	300	1	1	18	18	.....	.....	.....	15,994	15,994	.....
Lancaster	6,200	8,600	225	.....	.....	1	1	.....	.....	.....	400	400	.....
Newberry	1,500	4,000	300	.....	.....	3	3	.....	.....	.....	2,000	2,000	.....
Oconee	3,000	9,000	240	.....	.....	4	4	.....	.....	.....	1,860	1,860	.....
Pickens	75,000	9,790	92	6	.....	45	45	.....	.....	.....	7,760	7,760	.....
Richland	113,700	276,253	283	6	1	138	138	.....	.....	.....	138,610	138,610	.....
Spartanburg	4,000	17,000	305	1	.....	5	5	.....	.....	.....	4,782	4,782	.....
Sumter	8,000	25,000	310	.....	.....	6	6	.....	.....	.....	7,000	7,000	.....
York	3,000	6,000	312	.....	.....	1	1	.....	.....	.....	1,200	1,200	.....
Total	\$480,909	\$753,831	256	29	4	382	382	.....	.....	.....	\$384,433	\$384,433	.....
PATENT MEDICINES.													
Charleston	\$76,000	\$570,143	292	.....	.....	39	25	14	.....	.....	\$33,992	\$26,466	\$7,526
Florence	40,000	30,000	300	.....	.....	23	16	7	.....	.....	10,000	12,000	4,000
Georgetown	293,489	150,000	142	7	.....	65	63	2	.....	.....	66,686	66,686	2,370

TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Persons Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Years.		Under 16 Years.	
							Male.	Female.	Male.	Female.		Male.	Female.		
PATENT MEDICINES.—Con.															
Oconee	\$1,000	\$4,000	90			2	2	3			\$400	\$400			
Richland	28,200	28,000	225			17	14	3			5,190	4,100	1,090		
Spartanburg	11,500	42,000	200			7	3	4			3,400	2,050	1,350		
Union	10,500	4,500	365			10	9	1			9,900	8,700	600		
Total.	\$461,689	\$628,643	242	7		163	132	31			\$137,338	\$120,402	\$16,936		
PRINTING AND PUBLISHING.															
Abbeville	\$22,800	\$22,000	312	6	1	15	10	3	2		\$6,999	\$4,874	\$1,835	\$290	
Aiken	11,450	9,600	284			9	7	2			7,668	6,418	1,250		
Anderson	34,650	95,983	307	13		24	27	6	1		34,964	30,903	3,961	100	
Bamberg	2,000	6,000	206	2		1	1				624	624			
Barnwell	9,000	10,500	277	4		7	4	1	2		4,080	3,540	240	300	
Beaufort	4,000	6,000	312	2		4	4				5,000	5,000			
Calhoun	3,000	3,000	2	1		2	2				1,780	1,780			
Charleston	439,200	605,421	322	70	16	305	195	27	83		246,417	210,089	15,933	20,395	
Cherokee	20,700	36,500	312	2		12	9	3			15,834	13,104	2,730		
Chester	14,200	25,000	311	2	1	9	4	4	1		6,384	2,676	2,308	312	
Chesterfield	9,500	7,500	336	2	1	2	2				1,432	1,432			
Clarendon	7,000	6,000	312			6	6				3,250	3,250			
Colleton	15,000	12,000	309	4	1	5	4	1			4,180	3,830	780		
Darlington	17,500	14,000	310	4	1	7	6	1			5,500	4,780	720		
Dillon	14,940	18,304	312	3		8	7	1			8,500	8,070	520		
Dorchester	4,000	6,000	300	1		4	1	1	1		2,450	1,000	780	360	\$310
Edgefield	13,500	9,000	308	3	1	5	5				4,170	4,170			
Fairfield	4,800	4,072	231			3	3				750	750			
Florence	32,500	75,000	310	1	2	31	18	3	10		26,125	28,300	2,200	625	
Georgetown	8,000	6,600	310	1		3	3				3,500	3,500			
Greenville	127,250	400,829	316	14	4	142	121	17	4		148,489	134,212	12,887	1,390	
Hampton	16,200	38,810	284	2		20	14	6			14,386	10,676	3,810		
Horry	7,000	8,500	300			3	2				1,820	1,820			
Jasper	9,000	15,500	312	1		9	7	1	1		6,364	5,436	728	200	
Jasper	3,500	4,000	310	1		2	2				2,400	2,400			

Kershaw	12,840	16,290	310	5	1	1	8	7	1	1	6,470	5,720	750	.....
Lancaster	9,500	10,000	300	1	1	1	7	6	.....	.....	4,900	4,850	.....
Laurens	36,950	57,244	307	3	1	1	30	25	5	.....	31,126	29,123	50	
Lee	4,000	3,500	261	1	1	1	4	2	2	.....	1,800	1,800	.....
Lexington	11,350	23,700	254	3	.....	.....	10	8	2	.....	5,025	3,925	.....
McCormick	8,000	4,500	310	1	.....	.....	1	1	.....	.....	1,400	1,100	.....
Marion	13,000	14,400	304	2	.....	.....	6	6	.....	.....	7,560	7,560	.....
Marlboro	10,000	9,000	310	4	.....	.....	5	4	1	.....	4,900	3,700	.....
Newberry	16,200	18,500	312	4	.....	.....	21	18	3	.....	10,646	10,166	.....
Oconee	30,200	20,740	306	3	.....	.....	9	9	.....	.....	5,480	5,480	.....
Orangeburg	21,000	20,000	306	5	.....	.....	10	10	.....	.....	8,060	8,060	.....
Pickens	4,250	8,500	306	4	.....	.....	4	4	.....	.....	2,900	2,900	.....
Richland	662,038	761,638	324	27	12	325	216	53	54	2	336,492	295,534	624	
Saunder	10,000	7,000	312	2	.....	.....	2	2	.....	.....	2,400	2,400	.....
Spartanburg	96,251	201,186	306	4	.....	.....	118	78	12	28	81,136	70,200	6,334	
Sumter	23,400	45,900	291	5	2	29	25	4	.....	.....	28,045	25,800	2,245	
Union	20,500	32,700	312	3	.....	.....	14	9	3	2	11,590	9,230	350	
Williamsburg	9,350	12,500	312	1	.....	.....	7	6	1	.....	4,316	3,538	780	
York	71,500	63,000	312	4	.....	.....	13	9	3	1	11,290	9,924	290	
Total	\$1,912,826	\$2,773,512	304	218	44	1,271	910	167	191	3	\$1,123,562	\$988,812	\$103,353	\$35,463
RUBBER SEALS AND STAMPS.														
Charleston	\$112,300	\$206,714	218	8	.....	.....	72	52	20	.....	\$57,999	\$44,867	\$13,132	.....
Cherokee	50	100	.....	.....	.....	.....	1	1	.....	.....	700	700	.....
Greenville	1,000	1,800	300	.....	.....	.....	5	5	.....	.....	5,000	5,000	.....
Richland	18,000	20,000	312	4	2	.....	.....	.....	.....	.....	.....	.....	.....
Total	\$131,350	\$228,614	278	7	2	78	58	20	.....	.....	\$63,699	\$50,567	\$13,132	.....
TOBACCO AND CIGARS.														
Charleston	\$205,165	\$300,472	292	7	1	170	96	130	2	12	\$84,906	\$90,513	\$58,018	\$1,040
Greenville	20,000	355,646	306	7	3	160	11	134	15	.....	82,870	11,906	65,814	.....
Greenwood	3,000	35,000	304	2	.....	.....	20	2	18	.....	9,637	1,200	8,437	.....
Richland	500	7,874	300	.....	.....	.....	2	2	.....	.....	2,234	2,234	.....
Spartanburg	6,000	3,000	240	.....	.....	.....	2	2	.....	.....	900	900	.....
Darlington	500	6,063	130	.....	.....	.....	2	2	.....	.....	496	496	.....
Total	\$235,165	\$706,065	262	16	4	356	45	282	2	27	\$180,943	\$37,251	\$132,264	\$1,040
TURPENTINE AND ROSIN.														
Aiken	\$500	\$1,000	30	.....	.....	.....	3	3	.....	.....	\$210	\$210	.....	.....
Charleston	40,000	219,063	312	2	.....	.....	22	20	2	.....	16,597	15,562	81,035	.....
Colleton	32,000	37,000	100	3	.....	.....	37	37	.....	.....	18,300	18,300	.....	.....
Hampton	3,000	7,500	275	2	.....	.....	10	10	.....	.....	5,720	5,720	.....	.....
Horry	1,500	775	20	.....	.....	.....	1	1	.....	.....	30	30	.....	.....
Jasper	4,000	9,200	120	18	18	4,730	4,730
Total	\$81,000	\$274,623	142	7	91	89	2	\$45,577	\$44,542	\$1,036
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TABLE XII.—ALL INDUSTRIES BY COUNTIES—1919.—Continued.

	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Per-sons Employed.	Number.				Total Wages, Not In-cluding Salaries of Managers.	Wages.					
				Male.			Female.		Over 16 Yrs.			Under 16 Yrs.		Over 16 Years.		Under 16 Years.	
TEXTILES.																	
See special table for counties.																	
Total.....	\$117,177,166	\$223,912,960	296	924	200	51,462	32,277	15,900	1,774	1,511	\$36,677,388	\$24,757,195	\$10,061,971	\$1,082,131	\$896,001		
OIL MILLS.																	
See special table for counties.																	
Total.....	\$5,312,990	\$39,633,724	171	347	27	3,266	3,127	137	2	.....	\$1,992,426	\$1,047,304	\$44,674	\$448	.....	

TABLE XIII.—SUMMARY OF INDUSTRIES FOR SEVEN COUNTIES IN WHICH PRINCIPAL CITIES ARE LOCATED, 1919.

Character of Industry.	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Persons Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.					
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Over 16 Years.		Under 16 Years.			
							Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.		
AIKEN.																	
Bakery Products	\$900	\$10,000	312	.....	.....	3	.....	.....	.....	\$3,068	.....	.....	.....	.....	.....	.....	.....
Boxes and Baskets.....	61,700	190,000	900	3	.....	75	51	24	.....	.....	44,810	.....	.....	.....	.....	.....	.....
Brick and Tile.....	8,000	39,275	138	.....	.....	34	34	.....	.....	.....	13,017	.....	.....	.....	.....	.....	.....
Electricity	66,800	40,120	365	2	.....	11	10	1	.....	.....	9,497	.....	.....	.....	.....	.....	.....
Fertilizer	7,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furniture	61,700	190,000	900	3	.....	75	51	24	.....	.....	44,810	.....	.....	.....	.....	.....	.....
Flour and Grists.....	1,600	2,000	155	.....	.....	.....	1	.....	.....	.....	150	.....	.....	.....	.....	.....	.....
Ice	27,500	181,508	357	2	.....	35	35	.....	.....	.....	31,209	.....	.....	.....	.....	.....	.....

Lumber and Timber.....	519,204	161	10	235	235	2	159,802	159,802	.....	.....
Mines and Mining.....	50,466	264	3	47	45	2	23,582	23,582	.....	.....
Minerals and Soda.....	500	27	1	5	5	.....	.....	.....	.....	.....
Monuments and Stones.....	200	150	1	12	12	.....	1,900	1,900	.....	.....
Oil Mills.....	72,500	175,665	156	9	9	2	19,525	19,525	.....	.....
Printing and Publishing.....	11,450	9,600	284	2	1,683	734	768	6,415	1,250	.....
Textiles.....	4,081,100	12,604,600	270	35	2,518	1,683	1,800,358	1,270,282	445,107	\$32,243
Turpentine and Rosin.....	500	1,000	30	3	8	.....	210	210	.....	.....
Total.....	\$5,016,416	\$14,056,258	216	64	13	3,083	\$2,158,856	\$1,617,558	\$465,309	\$43,656
ANDERSON.										
Bakery Products.....	\$8,500	\$92,850	337	.....	11	9	\$11,196	\$9,878	\$1,248	.....
Brick and Tile.....	12,000	6,800	48	.....	12	12	2,665	2,665	.....	.....
Electricity.....	1,000,000	177,848	865	8	31	21	17,887	17,887	.....	.....
Fertilizer.....	175,000	1,114,232	200	13	68	68	43,768	43,768	.....	.....
Foundry and Machine Shops.....	32,250	68,467	306	.....	32	32	29,600	29,600	.....	.....
Flour and Gris.....	44,150	62,400	199	.....	6	6	4,840	4,840	.....	.....
Gas.....	70,000	80,000	365	10	1	7	12,600	11,640	960	.....
Harness and Leather.....	5,000	25,000	251	.....	15	3	4,141	828	3,313	.....
Ice.....	68,000	56,637	245	4	24	24	12,600	12,600	.....	.....
Lumber and Timber.....	105,000	301,100	266	14	119	119	104,060	104,060	780	.....
Mattresses and Springs.....	37,204	50,000	800	3	10	8	5,356	4,576	.....	.....
Minerals and Soda.....	48,510	154,003	298	8	38	38	17,118	17,118	.....	.....
Monuments and Stones.....	10,200	23,647	295	.....	3	3	2,030	2,030	.....	.....
Oil Mills.....	273,000	2,054,471	181	25	239	229	114,511	113,182	1,379	.....
Printing and Publishing.....	34,650	96,988	307	13	34	27	34,964	30,903	3,961	100
Textiles.....	12,708,925	24,220,060	301	110	25	3,553	8,850,357	2,652,399	1,004,187	\$97,988
Total.....	\$14,647,398	\$28,533,273	296	209	30	5,922	\$4,269,714	\$3,031,005	\$1,015,828	\$134,893
CHARLESTON.										
Bakery Products.....	\$148,950	\$396,749	345	9	2	170	\$134,608	\$119,498	\$14,737	\$223
Boxes and Baskets.....	228,417	392,054	252	8	3	155	84,251	71,891	12,360	.....
Cameries.....	98,000	30,000	175	5	50	30	10,000	5,000	5,000	.....
Clothing.....	75,000	750,000	80	6	2	150	104,000	13,000	91,000	.....
Confectories.....	69,227	372,372	295	3	87	64	56,004	47,234	7,075	355
Electricity.....	1,081,828	1,609,543	231	73	28	684	696,063	668,293	27,900	1,250
Fertilizer.....	2,937,142	10,584,863	282	92	2	1,525	1,324,295	1,318,899	908	5,678
Foundry and Machine Shops.....	455,528	1,534,294	306	22	5	561	785,512	774,325	11,187	.....
Flour and Gris.....	514,884	1,000,873	223	10	71	71	25,582	25,582	.....	.....
Glass.....	15,000	80,000	310	.....	10	8	9,890	8,200	1,680	.....
Ice.....	155,750	283,986	272	1	108	108	62,715	62,715	.....	.....
Lumber and Timber.....	2,760,500	1,380,708	240	38	8	1,145	449,647	446,632	3,015	.....
Mattresses and Springs.....	16,000	12,000	300	.....	5	5	6,760	6,760	.....	.....
Mines and Mining.....	2,409,200	484,881	192	15	.....	322	227,538	227,538	.....	.....
Minerals and Soda Water.....	118,700	297,900	318	7	1	35	23,410	23,110	300	.....

TABLE XIII.—SUMMARY OF INDUSTRIES FOR SEVEN COUNTIES IN WHICH PRINCIPAL CITIES ARE LOCATED, 1919.—Con.

Character of Industry.	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Persons Employed.	Number.				Total Wages, Not Including Salaries of Managers.	Wages.			
				Male.	Female.		Over 16 Yrs.		Under 16 Yrs.			Male.	Female.	Over 16 Years.	Under 16 Years.
							Male.	Female.	Male.	Female.					
CHARLESTON.—Con.															
Monuments and Stones.....	\$15,000	\$29,698	263	438	91	7,488	6,122	1,240	106	20	\$5,706,547	\$565,845	\$7,350		
Oil Mills.....	290,000	2,428,545	245	15	206	14	165	41	.....	.....	\$88,024	11,539	.....	
Patent Medicines.....	76,000	570,143	292	39	39	206	25	14	.....	.....	120,928	26,466	.....	
Printing and Publishing.....	489,200	695,421	322	70	16	306	195	27	83	.....	246,417	15,933	20,395	
Rubber Seals and Stamps.....	112,300	206,714	218	3	72	72	52	20	.....	.....	57,909	13,132	.....	
Textiles.....	3,660,654	7,710,970	305	46	23	1,552	857	686	5	4	1,038,992	750,772	2,333		
Tobacco and Cigars.....	300,472	292	7	7	1	170	26	130	2	12	84,806	20,513	1,532		
Turpentine and Rosin.....	205,165	300,472	292	7	1	170	26	130	2	12	84,806	20,513	1,532		
.....	40,000	219,063	312	2	2	22	20	2	.....	.....	15,562	1,035	6,240
Total.....	\$15,895,445	\$31,740,214	202	438	91	7,488	6,122	1,240	106	20	\$5,706,547	\$565,845	\$7,350		
GREENVILLE.															
Bakery Products.....	\$35,000	\$100,000	313	.....	.....	23	22	1	.....	.....	\$18,000	\$17,168	.....	
Boxes and Baskets.....	134,500	226,150	277	5	1	73	65	7	1	.....	57,928	53,952	.....	
Brick and Tile.....	2,000	40,000	310	1	.....	9	9	.....	.....	.....	11,000	3,400	\$576
Canneries.....	64,740	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing.....	103,500	633,250	295	5	4	131	13	114	4	.....	66,073	10,004	\$1,400	
Confectioneries.....	26,000	102,400	250	.....	.....	11	10	1	.....	.....	1,700	1,500	.....	
Electricity.....	1,745,833	278,556	322	5	.....	113	110	3	.....	.....	87,243	85,623	.....	
Fertilizer.....	225,000	731,650	187	4	.....	120	120	.....	.....	.....	82,534	82,534	.....	
Foundry and Machine Shops.....	382,000	529,000	304	15	1	176	175	1	.....	.....	202,846	201,895	.....	
Furniture.....	15,800	88,319	259	7	1	34	34	.....	.....	.....	10,877	10,877	.....	
Flour and Grist Mills.....	74,005	479,173	365	3	.....	31	31	.....	.....	.....	18,338	18,338	.....	
Gas.....	500,000	97,707	365	2	.....	47	32	15	.....	.....	27,781	27,781	.....	
Glass.....	18,200	147,282	305	2	.....	26	26	.....	.....	.....	37,913	37,913	.....	
Harness and Leather.....	12,000	60,000	100	.....	.....	23	23	.....	.....	.....	11,800	11,800	.....	
Ice.....	28,000	45,600	290	.....	.....	23	23	.....	.....	.....	12,968	12,968	.....	
Lumber and Timber.....	18,000	494,378	224	9	.....	73	73	.....	.....	.....	41,396	41,396	.....	
Mattresses and Springs.....	8,000	25,000	275	.....	.....	10	9	1	.....	.....	5,000	4,500	.....	
Minerals and Soda.....	305,520	516,444	296	10	3	61	61	.....	.....	.....	35,076	35,076	.....	
Monuments and Stones.....	5,000	40,000	300	2	1	12	12	.....	.....	.....	12,700	12,700	.....	
Oil Mills.....	300,490	1,423,761	175	18	3	223	217	6	.....	.....	114,531	110,631	.....	

Printing and Publishing.....	127,259	400,629	316	4	142	121	17	4	.....	148,489	134,212	12,887	1,390	.....
Rubber Seals and Stamps.....	1,000	1,800	300	.....	1	1	.....	.....	.....	6,700,281	3,919,780	1,490,005	105,130	135,366
Textiles.....	16,982,270	39,223,700	301	120	7,931	4,916	2,460	290	256	.....	.....	.....	.....	.....
Total.....	\$21,068,107	\$46,634,799	277	230	42	9,235	6,065	2,635	296	\$6,704,639	\$4,852,739	\$1,568,088	\$167,000	\$136,766
RICHLAND.														
Bakery Products.....	\$42,500	\$298,390	332	2	1	51	45	6	.....	\$55,433	\$53,473	\$1,960	.....	.....
Brick and Tile.....	126,700	80,900	300	8	.....	56	51	.....	.....	52,782	48,976	.....	.....	.....
Confectionery.....	67,000	273,243	305	3	.....	40	32	8	.....	33,163	30,601	2,472	.....	.....
Cremeries.....	52,000	180,000	365	2	2	24	17	2	5	35,880	30,940	3,380	1,560	.....
Electricity.....	6,444,000	1,076,607	365	1	.....	64	64	.....	.....	81,050	81,050	.....	.....	.....
Fertilizers.....	476,590	3,541,480	243	27	3	318	318	.....	.....	294,876	294,876	.....	.....	.....
Foundry and Machine Shops.....	571,123	2,582,830	306	97	12	883	854	29	.....	1,344,363	1,319,943	24,420	.....	.....
Flour and Grist.....	97,500	1,589,835	290	6	43	43	43	.....	.....	38,242	38,242	.....	.....	.....
Gas.....	258,537	292,732	365	2	.....	24	24	.....	.....	90,124	90,124	.....	.....	.....
Glass.....	8,000	30,000	300	.....	.....	7	7	.....	.....	7,000	7,000	.....	.....	.....
Harness and Leather.....	4,500	35,000	312	2	.....	10	10	.....	.....	7,500	7,500	.....	.....	.....
Ice.....	503,218	996,708	282	10	105	105	105	.....	.....	115,083	115,083	.....	.....	.....
Lumber and Timber.....	188,000	280,627	165	7	145	135	5	5	.....	76,671	76,671	300	300	.....
Mattresses and Springs.....	6,000	25,000	300	.....	.....	6	6	1	.....	5,145	4,214	981	.....	.....
Mines and Mining.....	90,000	12,824	300	3	.....	50	50	.....	.....	14,712	14,712	.....	.....	.....
Minerals and Soda Water.....	105,000	584,738	235	6	1	78	77	1	.....	62,684	61,394	1,300	.....	.....
Monuments and Stones.....	113,700	276,251	253	6	.....	138	138	.....	.....	138,610	138,610	.....	.....	.....
Oil Mills.....	582,130	7,104,158	199	32	2	319	283	31	.....	281,307	270,015	11,192	.....	.....
Patent Medicines.....	29,200	28,000	225	.....	.....	17	14	3	.....	5,190	4,100	1,060	.....	.....
Printing and Publishing.....	632,038	761,638	324	27	12	325	216	53	2	336,492	296,534	34,105	6,229	.....
Rubber Seals and Stamps.....	18,000	20,000	312	4	2	5	5	.....	.....	5,000	5,000	.....	.....	.....
Tobacco and Cigars.....	4,728,103	11,153,234	288	34	21	2,792	1,760	890	77	2,395,958	1,692,764	730,974	46,532	35,688
Total.....	\$15,190,329	\$30,401,582	282	279	57	5,502	4,290	1,029	146	\$5,419,419	\$4,522,556	\$302,124	\$58,427	\$36,312
SPARTANBURG.														
Bakery Products.....	\$101,506	\$165,000	313	4	.....	53	44	8	.....	\$50,388	\$45,724	\$4,248	.....	.....
Boxes and Baskets.....	239,933	346,357	307	4	3	84	68	16	1	60,678	52,478	8,200	.....	.....
Confectioneries.....	84,837	251,663	347	5	1	43	29	14	.....	32,210	26,365	6,845	.....	.....
Electricity.....	7,055,500	190,519	365	26	.....	182	179	3	.....	194,561	191,861	2,700	.....	.....
Fertilizer.....	270,833	1,694,061	258	5	.....	64	64	.....	.....	74,519	74,519	.....	.....	.....
Foundry and Machine Shops.....	44,444	74,824	304	8	.....	32	32	.....	.....	25,063	25,063	.....	.....	.....
Flour and Grist.....	140,300	1,363,000	254	11	1	71	71	.....	.....	21,591	21,591	.....	.....	.....
Harness and Leather.....	157,501	272,700	308	3	3	63	47	14	2	56,138	46,202	9,284	652	.....
Ice.....	174,241	126,802	290	7	.....	47	47	.....	.....	39,313	39,313	.....	.....	.....
Lumber and Timber.....	43,000	82,797	219	3	1	26	26	.....	.....	27,231	27,231	7,000	.....	.....
Mattresses and Springs.....	60,001	113,318	300	4	2	36	27	9	.....	23,384	16,384	.....	.....	.....
Minerals and Soda Water.....	95,000	295,733	278	2	.....	49	48	.....	.....	37,276	35,971	1,305	.....	.....
Monuments and Stones.....	4,000	17,000	305	1	.....	5	5	.....	.....	4,782	4,782	.....	.....	.....

TABLE XIII.—SUMMARY OF INDUSTRIES FOR SEVEN COUNTIES IN WHICH PRINCIPAL CITIES ARE LOCATED, 1919.—Con.

Character of Industry.	Capital Invested.	Value of Annual Product.	Number of Days Plant Operated.	Number of Salaried Employees.		Average Number Employed.	Number.				Total Wages, Not In- cluding Salaries of Managers.	Wages.					
				Male.			Female.		Over 16 Yrs.			Under 16 Yrs.		Over 16 Years.		Under 16 Years.	
SPARTANBURG.—Con.																	
Oil Mills.....	\$418,225	\$2,114,579	137	38	.....	234	230	4	.....	.....	\$117,100	\$118,341	\$1,769	.....	.....
Patent Medicines.....	11,500	42,000	250	.....	.....	7	3	4	.....	.....	3,400	2,060	1,350	.....	.....
Printing and Publishing.....	96,251	201,196	308	4	.....	118	78	12	28	.....	81,136	70,300	6,334	4,602	.....	
Textiles.....	19,821,963	34,501,443	233	182	18	8,086	5,037	2,440	310	249	5,836,593	3,087,197	1,535,996	174,463	138,987		
Tobacco and Cigars.....	6,000	3,000	240	.....	.....	2	2	.....	.....	.....	900	900	.....	.....	.....
Total.....	\$28,765,125	\$41,865,991	290	302	30	9,152	6,037	2,625	340	250	\$6,396,363	\$4,483,172	\$1,584,021	\$179,717	\$139,353		
SUMTER.																	
Bakery Products.....	\$11,600	\$3,320	250	8	.....	29	29	.....	.....	.....	\$8,920	\$3,920	.....	.....	.....
Brick and Tile.....	40,000	39,423	132	.....	.....	.....	57	.....	.....	.....	.....	50,578	.....	.....	.....
Coffins and Caskets.....	80,659	215,007	800	3	1	68	12	1	.....	.....	14,820	14,100	750	.....	.....
Electricity.....	200,000	75,000	865	3	1	49	11	1	.....	.....	36,790	36,166	624	.....	.....
Foundry and Machine Shops.....	50,706	85,863	300	5	1	50	49	1	.....	.....	4,798	4,798	.....	.....	.....
Flour and Grist.....	24,500	49,802	138	2	.....	22	22	.....	.....	.....	12,367	11,534	883	.....	.....
Gas.....	100,000	45,106	865	1	.....	14	13	1	.....	.....	61,446	61,376	70	.....	.....
Lumber and Timber.....	112,218	325,330	220	8	2	119	117	2	.....	.....	39,809	39,809	.....	.....	.....
Minerals and Soda Water.....	665,000	337,831	223	4	.....	53	53	.....	.....	.....	7,000	7,000	.....	.....	.....
Monuments and Stone.....	8,000	25,000	310	.....	.....	6	6	.....	.....	.....	48,348	48,348	.....	.....	.....
Oil Mills.....	80,000	903,305	152	4	.....	56	56	.....	.....	.....	23,045	23,045	2,245	.....	.....
Printing and Publishing.....	23,400	45,900	231	5	2	20	25	4	.....	.....	.....	.....	.....	.....	.....
Total.....	\$1,396,063	\$2,155,892	254	38	7	448	498	10	.....	.....	\$313,081	\$306,429	\$5,252	.....	.....

GENERAL REVIEW

COTTON MILLS PROSPER.

The prosperity of the cotton mills of South Carolina has made itself felt in many ways—in the paying of increased wages and bonuses, and in the paying of dividends, for there are yet many stockholders in South Carolina although non-resident stockholders have bought in very heavily in the last five years. But the most appreciated evidence of this prosperity is in the improvement in the general tone of the industry and in the domestic conditions in the mills.

In November August Kohn, a well known correspondent and writer, prepared for the Charleston News and Courier a very comprehensive and accurate article, based in part upon facts taken from the files of this office, and as his statement presents the situation so clearly, I am reproducing herewith some excerpts therefrom:

“South Carolina is in the midst of abundant prosperity. The farmer, the merchant, the banker, or the cotton manufacturer, who has not been able to record profits during the past three or four years is scarcely to be ranked as a business success. Those who have had something to sell have prospered. All things considered the past two or three years have been the most successful—the most consecutively successful, in the history of the cotton mill industry in South Carolina. An enterprise that materially and substantially affects hundreds of thousands of the people of this State must be of vital concern. Now that the war is over and the treaty fight is nearing its end home folks can again look about and inquire of an industry in their own midst that sustains fully 200,000 of our white population; that has on its pay rolls almost 50,000; that sells to the world over two hundred million dollars’ worth of cloth; that is showing human and intelligent interest in its employees; that has practically avoided the conflicts of labor and capital, and that is broadening. Twelve years ago I prepared for The News and Courier a series of over twenty letters that undertook to give a resume of mill conditions. Today much more might be written because of the changed conditions and new angles of interest. I have now been requested to briefly

outline the recent development, and, so to speak, 'touch the high spots.'

WHY INDUSTRY HAS PROSPERED.

"First of all the industry has prospered. It has succeeded because of the good will between employers and employees; because of the laws of supply and demand; because of intelligent management and because ample capital is now available.

"A large farm is visualized by the number of plows it operates and so cotton mills grow in proportion to the number of spindles. It is my purpose in this review not to individualize, but to generalize as much as possible, and individual illustrations are intended only to illustrate what is thought to be general.

"Here briefly is shown how South Carolina has gone forward in its cotton development, and it spells a wonderful story if carefully studied:

Year.	No. of Spindles.
1849-50	36,500
1859-60	30,890
1869-70	34,940
1874-75	70,282
1879-80	82,424
1884-85	217,761
1889-90	332,784
1890-91	415,158
1891-92	467,825
1892-93	503,269
1893-94	569,033
1894-95	619,849
1895-96	802,854
1896-97	1,056,198
1897-98	1,205,272
1898-99	1,285,328
1899-90	1,693,649
1900-01	1,908,692
1901-02	2,246,926
1902-03	2,479,521
1909-10	3,846,117
1910-11	4,088,782
1911-12	4,332,264

1912-13	4,373,914
1913-14	4,527,430
1914-15	4,620,865
1915-16	4,708,414
1916-17	4,759,687
1917	4,867,319
1918	4,914,524

HOW WAGES HAVE GONE UP.

"Wages throughout the country have gone forward by leaps and bounds, and it is worth while to note what has occurred in the cotton mills. Taking the same cotton mills I have been able to secure accurate data concerning the average pay; by average pay is meant the average reward of every man and woman and minor within the mill. It does not include the pay of executive officers, the president of any one not actually engaged in the manufacturing process.

"Average pay per day per operative:

1902	\$0 72
1904	97
1906	1 10
1907	1 23
1913	1 26
1919	3 16

"In other words, the actual records of this typical mill show an increase in individual wage between 1913 and 1919 of exactly two hundred and fifty per cent., and this is typical. In addition the employees are sold coal, ice, wood and the like at actual or less than cost.

"One of the most successful and conservative cotton mills gave me these inside and accurate figures taken from the actual cost sheets and it is wonderfully illuminating if fully analyzed. In October, 1916, what is known as 68x72 count goods, 39 inches wide and weighing 4.75 yards to the pound, cost .0445 per pound. The same goods now cost the manufacturer .1364 per pound to make.

"Here are some worth while inside figures for a mill in the Piedmont and they are absolutely trustworthy:

"In September, 1916, the cost sheet showed inside labor cost to be .0546 per pound. In September, 1919, in the same cotton mill the inside labor cost was .1564 per pound.

"In another mill more removed these are the actual cost figures: September, 1916, .0357; September, 1919, .1020.

"This means that the total cost in the manufacturing process, exclusive of overhead expense, taxes, selling and the like has risen in the three years practically 300 per cent. In another group I have these most interesting figures:

"Total cost per pound, exclusive of cotton:

"September, 1916, 13 per pound; September, 1919, 36.34 per pound.

"To this must be added the cost of the cotton; the original purchase price plus 15 per cent. wastage and loss before it gets into the cloth goods.

"High as the prices of cloth goods to the consumer has been the relative increase for a period of ten years, both to the producer of the cotton and the employee has been greater than to the manufacturer, large as that has been. The census bureau has recently gotten out—

TABLES SHOWING RELATIVE INCREASES.

"The cotton mills of South Carolina pay relatively the same wage scale, some pay bonuses for continuous service, some add this to the current wage; others make the inducement in rents. There is no fixed scale of wages, but there is in the last analysis very little difference in the scale. This schedule is typical and perhaps more would be given if there were need, but the idea is for the readers of The News and Courier to see the wage scale in a Piedmont mill as an illustration of what has come to pass in the lives of tens of thousands of our own people.

"*Card Room*.—Overseers: Today, \$8.00; October, 1918, \$6.60; June, 1916, \$4.75 per day.

"Second Hand: Today, 50c; October, 1918, 37½c; June, 1916, 23½c per hour.

"Section Men: Today, 47½c; October, 1918, 35c; June, 1916, 20c per hour.

"Laborers: Today, 25c; October, 1918, 16c; June, 1916, 10c per hour.

"*Weave Room*.—Overseers: Today, \$8.00; October, 1918, \$6.60; June, 1916, \$4.75 per day.

"Second Hand: Today, 50c; October, 1918, 37½c; June, 1916, 23c per hour.

"Loom Fixers: Today, 47½c; October, 1918, 35c; June, 1916, 20c per hour.

"Weavers: Today, \$26.50; October, 1918, \$20.00; June, 1916, \$11.00, average per week.

"*Spinning*—Overseers: Today, \$8.00; October, 1918, \$6.60; June, 1916, \$4.75 per day.

"Second Hand: Today, 50c; October, 1918, 47c; June, 1916, 19c per hour.

"Section Men: Today, 47½c; October, 1918, 35c; June, 1916, 15c per hour.

"Spinners: Today, 25c; October, 1918, 21c; June, 1916, 11c per side.

"Doffers: Today, 3½c; October, 1918, 3½c; June, 1916, 3c per box.

"In the matter of weaving as in many other processes the wages are largely influenced by the skill of the operative. Some weavers earn twice as much as others. The pay for weaving in this same pay roll shows 21c to 91c per cut; in 1916, it was 15 cents for the minimum. To further dissect the records show in 1916 the weaver was paid 23 cents for a sixty-yard cut and today for the same cut and pattern he receives 51 cents. In spinning the same efficiency counts. In 1916 the pay was 11 cents a side; now it is from 25 to 27 cents for the same work.

"In some mills a bonus of \$5 per month is paid for efficiency—90 per cent production.

"In other mills if an employee does not miss a work day in four weeks he or she receives a bonus of 4 per cent. and the bonus grows month by month for continuous service. Other mills accentuate the pay per piece produced, all striving to get maximum production and all wanting satisfied employees.

FEWER WOMEN AND MINORS.

"South Carolina, more so than any other section, has native white labor. It is a more intelligent, a more patriotic, a more loyal and a more thrifty operative class, than is to be found in other sections. Generations have grown up in the communities and while the number of operatives in the mills shows a slight decline the production is 90 per cent. of maximum because of automatic machinery and increased skill among the operatives.

"High wages, high prices for farm products and cotton have all combined to minimize the employment of women and minors in the mills. The fathers, brothers and husbands are now all receiving such compensation that they can and do let their loved women folks remain at home.

"Years ago there was much stir about what was called 'child labor.' It is a condition that has worked itself out and there is now really no child labor problem. First, because of both the Federal and State laws, and because of the abundance of wages and the lure of the good schools.

"Through the courtesy of Commissioner B. Harris and with the co-operation of his mill statistician, Mr. Sidney C. Groeschel, I am able to present these interesting figures relative to 'child labor' in this State:

Years.	Children Employed		Under Twelve Years.
	14 to 16 Years.	12 to 14 Years.	
1909	4,412	3,876	726
1910	5,099	4,095	620
1911	4,858	3,176	410
1912	5,073	3,619	....
1913	5,003	3,581	....
1914	4,945	3,435	....
1915	4,932	3,518	....
1916	5,229	3,278	....
1917	4,739	....	....
1918	3,768	....	....
1919	3,709	....	....

"Note.—The above statistics, compiled from textile reports, shows a steady decrease despite the many additional spindles and looms which have been installed since 1909, and at the latter part of 1917 all children between the ages of 12 and 14 have been eliminated from the mills owing to the change of the law from the minimum age of twelve years to fourteen years.

"Under the present law no child under 14 years of age can work under any conditions in cotton mills, and under the Federal law no child under 16 is allowed to work over eight hours in any one day.

"In this connection these pre-war and present conditions are forceful:

	1916.	1919.
White males employed	30,738	27,339
White females employed	16,204	15,882

"The total employees, including colored help for heavy work, opening, scrubbing and the minors shows:

1916	54,686
1919	50,898

"These are actual figures gleaned from the inspectors' reports, indicating numbers at work and not including periodical workers. The census is made in August. The percentage is larger now because many who have 'laid-by' their crops have now gone into the cotton mills. The pay rolls now show a maximum and the usual exodus will likely occur in spring, induced by the desire to get out of doors and prospective high prices for cotton. The experience has been that in good farming years there is a decided exodus from the mills to the farms, particularly as many operatives now own their farms.

"It would be interesting to follow out the wonderful development of the schools and particularly those fostered by the cotton mills, but this is perhaps for another time. Superintendent Swearingen will in due time discuss this development, and how today the mills are generally co-operating toward long term and well conducted schools, and how under the vocational training plan there has been a remarkable development along this particular line all for the making of better citizens.

HOURS OF LABOR.

"Previous to 1909 the South Carolina law limited the hours of labor in cotton mills to sixty hours per week. Later on the law was changed to a maximum of sixty hours per week and the statutory law is now sixty hours per week, applying to cotton mills. In April of the present year the Cotton Manufacturers' Association, which numbers among its members practically all of the cotton mills in South Carolina, recommended to its members a maximum of fifty-five hours per week instead of sixty hours as permitted by law. Under this resolution of the Cotton Manufacturers' Association practically all of the cotton mills in

South Carolina are now operating a maximum of fifty-five hours per week, that is not over ten hours per day. There are a few mills that are running as much as sixty hours per week, and very few are doing any night work. This is being done largely to balance various departments, where one class of work shows larger production than another.

"The fifty-five hour voluntary rule has apparently worked most satisfactorily both to the mills and the employees. The pay has been so largely increased that the reduction in hours has amounted to nil, and the better hours has made the work in the plants more attractive and kept help that might otherwise have left, and at this time the great problem in cotton mills, as well as everything else, is to get satisfied labor.

SATISFIED EMPLOYEES.

"The labor in the cotton mills in South Carolina has been satisfied. During the last year when strikes have occurred in other sections more regularly than breakfast food has been served, there has been practically no conflicts in this State between the operatives and their employers. In what is known as the Piedmont section, where the overwhelming majority of spindles are located, there have been no strikes, lockouts or walkouts. There have been two little flare ups during the year, one in the Horse Creek Valley section and the other in Rock Hill, but both of these have been amicably adjusted, but as has been stated, in the great Piedmont belt there has been no labor conflict.

"From all that can be heard the American Textile Workers have been unable to get any considerable or worthwhile foothold in this State, the operatives evidently believing that they can get and do get better results by continuing the present pleasant relations between operatives and employers.

MANY NOTABLE IMPROVEMENTS.

"In these recent years of prosperity when the cotton mills have perforce been compelled to pay hundreds of thousands and millions of dollars to the Federal government by way of excess profit and while things were going well they have also without exception been almost extravagantly liberal in what is known as their welfare work, and particularly in making the homes of their operatives more attractive. Many of the mill communities, Winnsboro and others by way of illustration, have completely

rebuilt the homes of their operatives. Where sewerage and water have been available and it has been possible to install, some part of the profit of the mills has gone into this development. The Federal law has permitted the purchase of a certain amount of new machinery and the keeping of the plants up to date, and it has also encouraged the use of profits for permanent improvements such as the building of homes for the help and hundreds of thousands of dollars have within the last two years gone into the building of new and attractive cottages. The building of new welfare homes, higher wages for school teachers, the construction of cement walks, the installation of moving picture shows and everything that has been possible within the range of consistency to make the life in the mill communities as attractive if not more so than anywhere else, but this phase of the mill situation will probably be discussed more at length later on.

HOW MILLS HELP COTTON PRICES.

"Cotton mills have been material factors in the upbuilding of many communities in South Carolina. This is strikingly illustrated by the wonderful development of Greenville and Spartanburg. The more consumption there is for cotton the more demand there is for that commodity. The more cotton that can be locally used the better the local demand.

"On October 17th of this year there was published in The State a schedule of prices that were paid on the preceding day for cotton in the various markets. The prices were given for twenty-one markets in these dispatches and without exception the quotations were higher in mill communities than in those that did not have cotton mills. For instance, the price quoted for Lancaster was 37 cents. The price at Spartanburg and Greenville 35c, these three being distinctly cotton mill consumers. In Conway the cotton was 33.25 cents, at St. Matthews it was 34c, at Charleston 34c, and at Florence 34c; these latter are not local cotton mill buyers, and the mills are not factors in the purchase of local cotton. These figures, as well as those of previous days, show a difference of at least one cent a pound as published in this disinterested morning newspaper.

"It will be of decided interest to note the consumption of cotton by the mills in this State as compared with the production. The figures I give have just been received from Mr. Hester, secretary of the New Orleans Cotton Exchange and are, therefore, entirely reliable:

Years.	Commercial Crop.	Consumption.
1918-19	1,491,000	779,000
1917-18	1,295,000	905,000
1916-17	1,127,000	972,000
1915-16	1,370,000	932,000
1914-15	1,325,000	826,000
1913-14	1,475,000	822,000
1912-13	1,270,000	782,000
1911-12	1,730,000	733,000
1910-11	1,225,000	631,000
1909-10	1,184,000	650,000
1908-09	1,298,000	700,000
1907-08	1,226,000	625,000
1906-07	957,000	667,000
1905-06	1,175,000	667,000
1904-05	1,200,000	625,000
1903-04	825,000	564,000
1902-03	950,000	613,000
1901-02	925,000	614,000
1900-01	911,000	510,000
1899-1900	921,000	497,000

COTTON CONSUMPTION BY COUNTIES.

"It is my understanding that about sixty per cent. of the cotton that is consumed in South Carolina mills is what is known as local or upland cotton. Practically all of this is bought in upper Carolina or Georgia, the balance is bought in Alabama or farther west, besides the long staple cotton.

"I have gotten a very interesting table compiled up to August of this year, showing the consumption of cotton by counties in South Carolina. The difference between these figures is explained in the time for which the record is compiled and the reporting mills:

	3-4 to 1 1-16	1 1-16 to 1 5-16	Total.
Abbeville	12,800	....	12,800
Aiken	42,349	....	42,349
Anderson	93,824	2,320	96,144
Bamberg	1,250	....	1,250
Charleston	6,755	350	7,105
Cherokee	18,438	....	18,438
Chester	37,800	....	37,800
Chesterfield	3,640	....	3,640
Darlington	6,961	....	6,961
Dillon	7,200	....	7,200
Edgefield	1,600	....	1,600
Fairfield .....	....	3,000	3,000
Greenville	120,693	6,073	126,766
Greenville	42,346	....	42,345
Kershaw	3,200	....	3,200
Lancaster	20,600	....	20,600
Laurens	16,164	2,700	18,864
Lexington	7,089	....	7,089
Marion	1,580	....	1,580
Marlboro	5,000	8,000	13,000
Newberry	33,100	....	33,100
Oconee	11,591	2	11,593
Orangeburg	5,820	....	5,820
Pickens	31,493	....	31,493
Richland	49,243	2,500	51,743
Spartanburg	124,349	7,155	131,504
Union	54,907	....	54,907
York	39,813	5,450	45,263
Total	799,604	37,547	837,152

"It can readily be figured how much the farmers of these counties will make if an additional cent per pound is to be figured in the cotton as marketed. Anderson County, for instance, uses in its home mills all the cotton it produces and can readily afford to pay the freight saving.

PRICES OF COTTON GOODS.

"Prior to the world war the standard price of four-yard sea island sheeting was from 5 to 6¼ cents per yard. It is now 25 to 35 cents per yard, at retail, varying with the count. Previous to the war 'Fruit of the Loom' retailed at from 10 to 12½ cents per yard. Now it is 32 to 35 cents per yard.

"What folks want to know is why this great increase. There is perhaps more reason than in the advance in price of eggs or pecans. But the chief point is about the manufactured product.

"In 1913-14 raw middling cotton was quoted at from 13.70 to 14½ cents per pound. In 1916-17 it was quoted at 16 to 18 cents per pound, while this October it is selling locally freely at from 30 to 35 cents per pound.

"Then labor has increased fully 200 per cent. With these there is ample profit for the manufacturers, but it is a great mistake to imagine that the difference between old time and today's prices goes into the mill's treasury. It does not. First comes the commission house, then the converter, and they make and no doubt deserve large profits because of the risks they take. Then the jobber and finally the retailer who justifies profits by the hazard in these times. All these factors, aside from the original cotton, the wastage and labor, add to the ultimate cost before the goods get to the consumer."

TABLE XIV.—DIRECTORY OF THE PRINCIPAL BAKERIES.

Location.	Name of Corporation.
AIKEN—	
Aiken	Hafer's Bakery.
ANDERSON—	
Anderson	City Bakery.
Anderson	Pure Food Bakery.
BAMBERG—	
Denmark	Denmark Bakery.
BEAUFORT—	
Beaufort	Chas. R. Talley.
CHARLESTON—	
Charleston	Amme Bakery.
Charleston	Pure Food Bakery.
Charleston	Amme Bakery.
Charleston	Marble Bakery.
Charleston	Heinze Baking Company.
Charleston	Buse Bakery.
Charleston	Condon's Baking Company.
Charleston	J. H. Beckroge & Son.
Charleston	New York Bakery.
Charleston	Puckharber Bakery.
Charleston	Gibbes Bakery.
Charleston	Henry Beckrage Bakery.
Charleston	Chas. Patent Bakery.
Charleston	Puckharber Branch Bakery.
Charleston	Artman's Bakery.
CHESTER—	
Chester	Catawba Steam Bakery.
CHESTERFIELD—	
Cheraw	Cheraw Bakery.
CLARENDON—	
Manning	Manning Bakery.
COLLETON—	
Walterboro	Huberstlin Bakery.
DARLINGTON—	
Hartsville	Crescent Bakery.
DORCHESTER—	
St. George	St. George Bakery.
Summerville	Summerville Bakery.
FAIRFIELD—	
Winnsboro	Winnsboro Bakery.
FLORENCE—	
Florence	Boyd-Rush Bakery.
Florence	Kafer's Bakery.
GREENVILLE—	
Greenville	Greenville Bakery.
GREENWOOD—	
Greenwood	Greenwood Bakery.

TABLE XIV.—DIRECTORY OF THE PRINCIPAL BAKERIES.—Continued.

Location.	Name of Corporation.
HORRY—	
Conway	B. T. Hyman Bakery.
KERSHAW—	
Camden	Camden Steam Bakery.
MARION—	
Marion	J. H. Studley.
MARLBORO—	
Bennettsville	R. F. Schultz.
NEWBERRY—	
Newberry	Newberry Bakery.
OCONEE—	
Seneca	Bakery Lunch Room.
ORANGEBURG—	
Orangeburg	Orangeburg Steam Bakery.
RICHLAND—	
Columbia	Hoefler's Bakery.
Columbia	Hendrix Bakery.
Columbia	Pure Food Bakery.
Columbia	Birmingham Bakery.
Columbia	Oehmig's Bakery.
SPARTANBURG—	
Spartanburg	Becker's Bakery.
Spartanburg	Gelfuss Bakery.
SUMTER—	
Sumter	Sumter Bakery.
Sumter	Efird & Drake Bakery.
UNION—	
Union	Union Bakery.
YORK—	
Rock Hill	Rock Hill Steam Bakery.

TABLE XV.—DIRECTORY OF PRINCIPAL PLANTS MAKING BOXES AND BASKETS.

Location.	Name of Corporation.
AIKEN—	
North Augusta	Augusta Veneer Company.
BARNWELL—	
Williston	Green Lumber Crate Company.
BEAUFORT—	
Beaufort	Beaufort Veneer Packing Company.

**TABLE XV.—DIRECTORY OF PRINCIPAL PLANTS MAKING BOXES
AND BASKETS.—Continued.**

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Woodstock Mfg. Company.
Charleston	Anderson Spool & Bobbin Company.
Younges Island	Hollywood Mfg. Company.
Charleston	Seldenburg & Company.
CHEROKEE—	
Gaffney	Carolina Handle Company.
CHESTERFIELD—	
Cheraw	Cheraw Box Company.
Cheraw	J. L. Anderson.
DARLINGTON—	
Hartsville	Carolina Fiber Company.
Hartsville	Southern Novelty Company.
DILLON—	
Dillon	Dillon Novelty Works.
GREENVILLE—	
Greenville	Acme Loom, Harness & Reed Company.
Greenville	Norris Bros.
Greenville	Greenville Paper Box Company.
Greenville	Hich's Hardwood Works.
Greenville	Edwin Armour.
HORRY—	
Conway	The Veneer Mfg. Company.
KERSHAW—	
Camden	Camden Veneer Company.
LAURENS—	
Laurens	Laurens Box & Crate Company.
LEXINGTON—	
Swansea	W. B. Rast & Son.
NEWBERRY—	
Prosperity	J. C. Counts.
OCONEE—	
Walhalla	Shepard & Parrish Company.
ORANGEBURG—	
Orangeburg	Hamilton Hill Veneer Company.
RICHLAND—	
Columbia	Columbia Sign Works.
SPARTANBURG—	
Spartanburg	Samuel B. Fant.
Spartanburg	Muckenfuss Mfg. Company.
Spartanburg	Andrews Loom & Reed Company.
Spartanburg	Specialty Reed Works.
WILLIAMSBURG—	
Johnsonville	John M. Eddy.

TABLE XVI.—DIRECTORY OF PRINCIPAL BRICK AND TILE WORKS.

Location.	Name of Corporation.
AIKEN—	
Sunny Brook	Bennetts Brothers.
North Augusta	S. C. Pottery.
North Augusta	Rutherford & Company.
ANDERSON—	
Pendleton	Hammon Brick Company.
BERKELEY—	
St. Stephens	Santee River Brick Company.
CHESTERFIELD—	
Cheraw	Cheraw Brick Works.
DARLINGTON—	
Society Hill	Darlington Brick & Tile Company.
DORCHESTER—	
St. George	Williams Brick Works.
Summerville	Summerville Brick Company.
GREENVILLE—	
Greenville	Campbell Tile & Mantel Company.
GREENWOOD—	
Ninety-Six	Dyson Brick Company.
Ninety-Six	Angus Brick Company.
HORRY—	
Horry	Little Brick Yard.
LEE—	
Bishopville	Lee Drainage & Tile Company.
LEXINGTON—	
Columbia	Guignard Brick Works.
MARION—	
Marion	Layton's Brick Works.
Marion	Pee Dee Brick & Tile Company.
MARLBORO—	
Bennettsville	Bennettsville Brick Company.
Bennettsville	Drake Brick & Tile Company.
ORANGEBURG—	
Orangetburg	Edisto Brick Company.
PICKENS—	
Pickens	Bevens & Company.
RICHLAND—	
Columbia	Cementile Roofing Company.
Columbia	Columbia Clay Company.
Columbia	Landrum Fire Brick Works.
SUMTER—	
Sumter	Sumter Brick Works.
YORK—	
Catawba	Catawba Pottery.
Rock Hill	Ebenezer Brick Company.

TABLE XVII.—DIRECTORY OF PRINCIPAL CANNERIES.

Location.	Name of Corporation.
BEAUFORT—	
Beaufort	Hunt Packing Company.
Frogmore	Geo. W. Lowman.
Bluffton	Geo. W. Lowman.
Beaufort	Maggioni & Co.
CHARLESTON—	
Younges Island	Varn & Platt Co.
CHESTERFIELD—	
Cheraw	Eureka Canning Company.
CLARENDON—	
Manning	Manning Canning Company.
GREENVILLE—	
Greenville	Williams Company.
HORRY—	
Conway	Oak Ridge Dairy.
JASPER—	
Yamassee	Process Packers.
MCCORMICK—	
McCormick	Britt Canneries.

TABLE XVIII.—DIRECTORY OF PRINCIPAL CARRIAGE AND WAGON SHOPS.

Location.	Name of Corporation.
LAURENS—	
Laurens	W. B. Branletts & Son.
Laurens	J. D. Sexton & Son.
ORANGEBURG—	
Orangeburg	Edisto Wagon Company.
YORK—	
Rock Hill	Anderson Motor Company.

TABLE XIX.—DIRECTORY OF PRINCIPAL CLOTHING FACTORIES.

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Bell Overall Mfg. Company.
CHESTER—	
Chester	Earnest L. Barton.
GREENVILLE—	
Greenville	Nuckassee Mfg. Company.
Greenville	National Garment Mill.

TABLE XX.—DIRECTORY OF PRINCIPAL CONFECTIONERY FACTORIES.

Location.	Name of Corporation.
ABBEVILLE—	
Abbeville	Abbeville Candy Kitchen.
CHARLESTON—	
Charleston	Hahn Cream Company.
Charleston	Becker's Velvet Ice Cream Company.
Charleston	E. Laderize.
Charleston	Freyschmidt's Ice Cream Company.
Charleston	Delmonico Ice Cream Company.
Charleston	S. V. Kennison.
Charleston	Puchharbor Bros. Candy Company.
CHEROKEE—	
Gaffney	S. R. Suber.
CHESTER—	
Chester	Trakas & Petrolins.
CLARENDON—	
Manning	Manning Candy Kitchen.
DARLINGTON—	
Hartsville	Southern Candy Kitchen.
Darlington	Metropol Company.
DILLON—	
Dillon	Alex Salley's.
FLORENCE—	
Florence	Palmetto Ice Cream Company.
Florence	Lake City Candy Kitchen.
GEORGETOWN—	
Georgetown	Candy Kitchen.
GREENVILLE—	
Greenville	Garrison Ice Cream Company.
Greenville	Savoy Candy Company.
Greenville	Meador's Mfg. Company.
GREENWOOD—	
Greenwood	Greenwood Ice Cream Company.
Greenwood	Greenwood Candy Kitchen.
Greenwood	A. C. Watson.
KERSHAW—	
Camden	Camden's Candy Kitchen.
LAURENS—	
Laurens	Laurens Candy Kitchen.
NEWBERRY—	
Newberry	S. P. Trakas.
Newberry	Gus Metchicas & Company.
RICHLAND—	
Columbia	Jas. Brether.
Columbia	Feagan Candy Company.
Columbia	Central Ice Cream Company.
Columbia	Palmetto Candy Kitchen.
Columbia	Eatmore Candy Kitchen.
Columbia	Columbia Candy Factory.
Columbia	Rogers Ice Cream Company.

TABLE XX.—DIRECTORY OF PRINCIPAL CONFECTIONERY FACTORIES.
—Continued.

Location.	Name of Corporation.
SPARTANBURG—	
Spartanburg	Georgia-Carolina Candy Company.
Spartanburg	Quality Ice Cream Company.
Spartanburg	Spartanburg Corp. Company.
UNION—	
Union	A. Kerhulas.
YORK—	
Rock Hill	Rock Hill Candy & Fruit Company.

TABLE XXI.—DIRECTORY OF PRINCIPAL COFFIN AND CASKET MANUFACTURING PLANTS.

Location.	Name of Corporation.
SUMTER—	
Sumter	Witherspoon Bros. & Company.
LEXINGTON—	
Leesville	C. D. Barr.

TABLE XXII.—DIRECTORY OF PRINCIPAL CREAMERIES.

Location.	Name of Corporation.
DARLINGTON—	
Darlington	Darlington Milk Produces Company.
OCONEE—	
Clemson College	Clemson College Creamery.
Tomassee	Cheohm Cheese Factory.
HORRY—	
Conway	Oak Ridge Dairy.
RICHLAND—	
Columbia	Columbia Creamery.

TABLE XXIII.—DIRECTORY OF PRINCIPAL ELECTRIC PLANTS.

Location.	Name of Corporation.
ABBEVILLE—	
Abbeville	Abbeville Electric & Water Plant.
Due West	Due West Light & Power Company.
AIKEN—	
Aiken	Carolina Light and Power Company.
ALLENDALE—	
Allendale	Allendale Light & Power Company.
Fairfax	The Light & Power Company.

TABLE XXIII.—DIRECTORY OF PRINCIPAL ELECTRIC PLANTS.
—Continued.

Location.	Name of Corporation.
ANDERSON—	
Anderson	Southern Public Utilities.
BAMBERG—	
Denmark	Edisto Public Service.
Bamberg	Electric Light & Water Dept.
BARNWELL—	
Blackville	Public Service Commission.
Williston	Williston Electric Plant.
Barnwell	Barnwell Light & Power Company.
BEAUFORT—	
Beaufort	City of Beaufort.
CALHOUN—	
St. Matthews	Commission of Public Works.
CHARLESTON—	
Charleston	Carroll Plant.
Charleston	Carolina Public Service Company.
Charleston	Chas. Consolidated R. R. & Light Co.
Charleston	North Charleston Water & Light Co.
CHEROKEE—	
Blacksburg	99 Island Generating Station.
CHESTER—	
Great Falls	Great Falls Generating Station.
Great Falls	Rocky Creek Generating Station.
Great Falls	Fishing Creek Station.
CHESTERFIELD—	
McBee	McBee Electrical Company.
Chesterfield	Teals Light & Power Company.
CLARENDON—	
Summerton	Commission of Public Works.
Manning	Manning Light & Ice Company.
COLLETON—	
Walterboro	Water & Light Plant.
DARLINGTON—	
Hartsville	Hartsville Electric Company.
Society Hill	Society Hill Power Company.
Darlington	Palmetto Light & Power Company.
DILLON—	
Dillon	Dillon Electric Plant.
Latta	The Latta Electric Plant.
DORCHESTER—	
St. George	St. George Light & Power Company.
Summerville	Palmetto Light & Power Company.
EDGEFIELD—	
Edgefield	Board of Public Works.
Johnston	Boyd Utilities Plant.
FAIRFIELD—	
Winnsboro	Board of Public Works.

TABLE XXIII.—DIRECTORY OF PRINCIPAL ELECTRIC PLANTS.
—Continued.

Location.	Name of Corporation.
FLORENCE—	
Timmons ville	Palmetto Power and Light Co.
Lake City	Lake City Power Plant.
Florence	Palmetto Power Company.
GEORGETOWN—	
Georgetown	Georgetown Railway & Light Co.
GREENVILLE—	
Belton	Belton Power Co.
Fountain Inn	Cedar Falls Light & Power Co.
Greenville	Greenville Ice & Fuel Plant.
Greenville	Greenville Steam Plant.
Greenville	Southern Public Utilities Co.
GREENWOOD—	
Ninety Six	Commission of Public Works.
Greenwood	Greenwood Water & Light Plant.
HAMPTON—	
Estill	Estill Light & Water Works.
HORRY—	
Conway	Quattlebaum Light Co.
LANCASTER—	
Lancaster	Lancaster Light & Power Co.
Kershaw	Kershaw Electric Plant.
LAURENS—	
Laurens	Reedy River Power Co.
Laurens	Sullivan Power Co.
Laurens	Laurens Light & Water Plant.
LEXINGTON—	
Batesburg	Commission of Public Works.
Leesville	Brodie Light & Power Co.
MARION—	
Marion	Palmetto Light & Power Co.
MARLBORO—	
McCall	Municipal Light & Power Co.
Bennettsville	Bennettsville Electric & Water Plant
Clio	B. P. Parish.
NEWBERRY—	
Newberry	Commission of Public Works.
OCONEE—	
Walhalla	Walhalla Light & Power Co.
Seneca	Seneca Light Plant.
Newry	Conneross Light & Power Plant.
ORANGEBURG—	
Elloree	Elloree Light & Power Co.
North	North Electric Power Plant.
Orangeburg	Orangeburg Water & Light Co.
Branchville	Commission of Public Works.
Springfield	Springfield Electric L. & P. Co.

TABLE XXIII.—DIRECTORY OF PRINCIPAL ELECTRIC PLANTS.
—Continued.

Location.	Name of Corporation.
PICKENS—	
Pickens	Ivy Light & Water Co.
Liberty	Liberty Light & Power Co.
RICHLAND—	
Columbia	Columbia Railway, Gas & Electric Co.
Columbia	Carolina Gas & Light Co.
SALUDA—	
Saluda	Saluda Public Service Corp.
SPARTANBURG—	
Spartanburg and Gaffney	S. C. Railway, Light & Power Co.
Wellford	Enoree Power Co.
Chesnee	Chesnee Electric Light Plant.
SUMTER—	
Sumter	Sumter Lighting Co.
UNION—	
Union	Union Mfg. & Power Co.
Union	Municipal Elec. Light & Water Works.
WILLIAMSBURG—	
Kingstree	Kingstree Electric Light Co.
YORK—	
Rock Hill	City Water & Light Dept.
Rock Hill	Catawba Generating Station.
York	Yorkville Electric & Water Plant.

TABLE XXIV.—DIRECTORY OF PRINCIPAL FERTILIZER PLANTS.

Location.	Name of Corporation.
AIKEN—	
Wagener	Farmers Storage & Fertilizer Co.
ALLENDALE—	
Allendale	Allendale Fertilizer Co.
Allendale	Southern Cotton Oil Co.
ANDERSON—	
Anderson	Anderson Fertilizer Co.
BARNWELL—	
Barnwell	Southern Cotton Oil Co.
CALHOUN—	
Ft. Motte	Orangeburg Fertilizer Co.
St. Matthews	Southern Cotton Oil Co.

TABLE XXIV.—DIRECTORY OF PRINCIPAL FERTILIZER PLANTS.
—Continued.

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Malony & Carter.
Charleston	Maybanks Fertilizer Co.
Charleston	The McMurphey Co.
Charleston	Etiwan Fertilizer Co.
Charleston	Ashepoo Fertilizer Works.
Charleston	Va.-Caro. Chem. Co. (Standard)
Charleston	Va.-Caro. Chem. Co. (Atlantic Chicora).
Charleston	Va.-Caro. Chem. Co. (Stona).
Charleston	McCabe Fertilizer Co.
Charleston	McCabe Chemical Co.
Charleston	Planter's Fertilizer Co.
Charleston	Southern Cotton Oil Co.
Charleston	Wulbern Fertilizer Co.
CHEROKEE—	
Blacksburg	Virginia-Carolina Chemical Co.
CHESTER—	
Chester	Southern Cotton Oil Co.
Chester	Swift Co.
Great Falls	Southern Electric Chem. Co.
CLARENDON—	
Manning	Manning Oil Mill.
COLLETON—	
Pon Pon	Ga. Chem. Works (Pon Pon Factory).
Ritter	Colleton Mercantile Mfg. Co.
DARLINGTON—	
Darlington	Southern Cotton Oil Co.
Hartsville	Hartsville Fertilizer Co.
DILLON—	
Dillon	Southern Cotton Oil Co.
EDGEFIELD—	
Trenton	Trenton Fertilizer Co.
FAIRFIELD—	
Winnsboro	Southern Cotton Oil Co.
FLORENCE—	
Florence	Southern Cotton Oil Co.
GREENVILLE—	
Greenville	Independent Fertilizer Co.
Greenville	Virginia-Carolina Chemical Co.
Greenville	Southern Cotton Oil Co.
GREENWOOD—	
Greenwood	International Agri. Corp.
Greenwood	Southern Cotton Oil Co.
KERSHAW—	
Camden	Southern Cotton Oil Co.

TABLE XXIV.—DIRECTORY OF PRINCIPAL FERTILIZER PLANTS.
—Continued.

Location.	Name of Corporation.
LANCASTER—	
Lancaster	Catawba Fertilizer Co.
LAURENS—	
Laurens	Southern Cotton Oil Co.
Clinton	American Agri. Chem. Co.
LEXINGTON—	
Cayce	The American Agri. Chem. Works.
MARION—	
Marion	Marion Guano Co.
Clio	Clio Oil & Fertilizer Co.
MARLBORO—	
Bennettsville	Marlboro Fertilizer Co.
NEWBERRY—	
Newberry	Southern Cotton Oil Co.
OCONEE—	
Seneca	Seneca Fertilizer Co.
ORANGEBURG—	
Orangeburg	No-Filler Fertilizer Co.
Orangeburg	Orangeburg Fertilizer Co.
Norway	B. B. Williams.
PICKENS—	
Pickens	Franklin Guano Co.
RICHLAND—	
Columbia	Congaree Fertilizer Co.
Columbia	F. A. Royster Fertilizer Co.
Columbia	Virginia-Carolina Chemical Co.
Columbia	Palmetto Guano Co.
SPARTANBURG—	
Spartanburg	Farmers Fertilizer Works.
Spartanburg	International Agri. Corp.
Spartanburg	Spartanburg Fertilizer Co.
Spartanburg	F. S. Royster Guano Co.
Spartanburg	Southern Cotton Oil Co.
UNION—	
Union	Southern Cotton Oil Co.
YORK—	
Rock Hill	Rock Hill Fertilizer Co.

TABLE XXV.—DIRECTORY OF PRINCIPAL FOUNDRIES AND MACHINE SHOPS.

Location.	Name of Corporation..
ANDERSON—	
Anderson	Divver Roofing Co.
Anderson	Anderson Machine & Foundry Co.
BAMBERG—	
Denmark	I. U. Cox Repair Shop.
CHARLESTON—	
Charleston	River Side Iron Works.
Charleston	Charleston Shops.
Charleston	Valk & Murdock Co.
CHEROKEE—	
Gaffney	L. Y. Randall.
CHESTERFIELD—	
Cheraw	Cleveland Machine Works.
CLARENDON—	
Manning	Reardon's Repair Shop.
DARLINGTON—	
Darlington	Darlington Iron Works.
Lydia	Kelly & Boyd.
Darlington	Wilson & Jones.
DILLON—	
Dillon	Dillon Machine Shops.
FLORENCE—	
Florence	The J. D. Bridges Co.
Florence	A. C. L. Shops.
Florence	Universal Plow Co.
GREENVILLE—	
Greenville	Mountain City Foundry & Mach. Shops.
Greenville	American Machine & Mfg. Co.
Greenville	Greenville Iron Works.
GREENWOOD—	
Greenwood	Greenwood Iron Works.
Greenwood	Aldrich Machine Works.
HAMPTON—	
Estill	J. E. Rhodes.
HORRY—	
Conway	Conway Iron Works.
LAURENS—	
Laurens	Laurens Iron Works.
RICHLAND—	
Columbia	Gibbes Machinery Co.
Columbia	Palmetto Iron Works.
Columbia	Columbia Shops.
Columbia	Tozer Engine Works.

TABLE XXV.—DIRECTORY OF PRINCIPAL FOUNDRIES AND MACHINE SHOPS—Continued.

Location.	Name of Corporation.
SPARTANBURG—	
Spartanburg	Standard Iron Works.
Spartanburg	Suspension Bearing Co.
SUMTER—	
Sumter	Sumter Machine Co.
YORK—	
Rock Hill	Jones Iron Works.

TABLE XXVI.—DIRECTORY OF PRINCIPAL FURNITURE AND WOOD-WORK FACTORIES.

Location.	Name of Corporation.
AIKEN—	
North Augusta	Augusta Veneer Co.
DARLINGTON—	
Hartsville	Pee Dee Furniture Co.
GREENVILLE—	
Greenville	Greenville Mantle & Mfg. Co.
ORANGEBURG—	
Orangeburg	Hamilton Hill Veneer Co.
PICKENS—	
Pickens	Pickens Cabinet Works.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.

Location.	Name of Corporation.
ABBEVILLE—	
Hodges	Spruells' Mill.
Abbeville	David Mill.
Iva	Price Mill.
Abbeville	Millford's Mill.
Abbeville	O. S. Cochran.
AIKEN—	
Aiken	G. R. Wright.
Monetta	W. W. Holston.
Wagener	J. R. Gautt.
ALLENDALE—	
Milletsville	J. J. Walker.
Allendale	J. T. Brigman.
Allendale	J. H. Call.
Ulmers	W. L. Brant.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
ANDERSON—	
Anderson	Peace Bros.
Anderson	P. L. Late & Son.
Honea Path	Harper Co.
Lownsville	Carues.
Anderson	Burriss Mills.
Pelzer	W. W. Moore.
Anderson	High Shoals Co.
Iva	A. H. Burress.
Anderson	Kings Corn Mill.
Broyles	Browles Mill.
Iva	McGees Grist Mill.
Belton	Jno L. Boyce.
BAMBERG—	
Olar	Brabham & Morris.
Denmark	J. T. Griffith.
Bamberg	W. S. Bamberg.
Olar	J. W. Sellers.
Denmark	E. A. Collins.
Bamberg	Sandifer's Grist Mill.
BARNWELL—	
Barnwell	J. M. Hill.
Williston	Watchers Meal & Grist Mill.
Williston	A. S. Bell.
Williston	T. M. Willis Grist Mill.
Dumbarton	Corley's Flour Mill.
BEAUFORT—	
Grays Hill	N. M. Park.
BERKELEY—	
Oakley	Chas. A. Jones.
Wren	B. B. Bishop.
Bonneau	L. W. Jones.
Moncks Corner	E. E. Balentine.
Bonneau	J. E. Mixon.
Russellville	W. P. Russel.
Bonneau	C. M. Jones.
Pinopolis	J. C. Hare Grist Mill.
Moncks Corner	J. McKewn Williams.
CALHOUN—	
St. Matthews	P. F. Spigener.
St. Matthews	A. K. Smoke.
St. Matthews	W. L. Buyck.
St. Matthews	W. P. Wise.
St. Matthews	S. E. Owens.
CHARLESTON—	
Charleston	Maloney & Carter Co.
Charleston	Martin Howard Co.
Charleston	H. W. Fusler & Son.
Charleston	West Point Mill Co.
Charleston	Henry Viohl.
Charleston	H. T. Foster.
Charleston	Blohme.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
CHEROKEE—	
Gaffney	D. C. Tindell.
Blacksburg	Buffalo Roller Mills.
Gaffney	L. C. Rogers.
Wilkinsville	Reynolds Grist Mill.
Gaffney	C. W. Moore.
Gaffney	Dawkins Mill.
CHESTER—	
Chester	W. O. Guy.
Richburg	Peoples Gin Co.
Great Falls	Rocky Creek Milling Co.
Rodman	C. E. & B. M. Waters.
Richburg	F. N. Simpson.
CHESTERFIELD—	
Ruby	Ruby Roller Mill.
Jefferson	W. A. Plyler.
Angelus	J. S. Horton.
Cheraw	Nesbit & Melton.
Chesterfield	Everyman's Mill.
Ruby	Joel Melton.
Pageland	Pageland Novelty Works.
McBee	J. W. Blackwell.
McBee	Alonzo Blackwell.
Cheraw	J. B. C. Flant.
CLARENDON—	
Manning	J. H. Johnston.
Manning	S. C. Lee.
Manning	C. M. White.
Alcolu	W. M. Mitchum.
Wilson	T. M. McKnight.
Manning	J. J. Geddings.
Forreston	J. C. Land.
Manning	Clarendon Roller Mills.
Summertown	J. G. Senn.
Silver	J. B. Thomas.
COLLETON—	
Walterboro	Home Milling Co.
Ruffin	H. D. Padgett, Jr.
Ehrhardt	Geo. W. Folk.
Green Pond	E. W. Smith & Sons.
Walterboro	A. P. Hiott.
Cottageville	J. H. Cone.
Walterboro	J. S. Jackson.
Hendersonville	G. W. Nettles.
DARLINGTON—	
Darlington	W. P. DeBose.
Society Hill	W. C. Coker & Son.
Dovesville	Anna & Hettie McIntosh.
Dovesville	J. C. Calhoun.
Darlington	B. M. Parrott.
Lamar	Oats & Beasley.
Darlington	N. R. Harrell.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
DARLINGTON (Continued)—	
Darlington	Isgett Mill.
Darlington	P. T. Rhodes Grist Mill.
Darlington	Darlington Roller Mills.
Lamar	A. B. Mimms.
DILLON—	
Dillon	Caroline Milling Co.
Lake View	Pages Mill.
Kemper	B. P. Hayes.
Latta	T. O. Solmon.
DORCHESTER—	
Grover	P. S. Spell.
Ridgeville	W. D. Way.
Harleville	Bowman & Cannady.
Dorchester	I. S. Hutto.
Ridgeville	W. B. Hill.
Pregnall	M. G. Rumph & Son.
St. George	J. W. Walters.
St. George	P. A. Kizer.
EDGEFIELD—	
Johnston	Johnston Roller Mill.
Edgefield	A. L. Kemp.
Trenton	Salters Mill.
Trenton	W. A. Pardere.
FAIRFIELD—	
Wallaceville	T. W. Mann.
White Oak	K. H. & M. W. Patrick.
Shelton	Hill Bros.
Ridgeway	W. W. & O. R. Collins.
Ridgeway	Enterprise Mills.
FLORENCE—	
Lake City	Lake City Roller Mills.
Florence	B. H. Childers.
Florence	Pamlico Supply Co.
Emmingham	E. L. McPherson.
Tennsonville	Harpers Mfg. Co.
Florence	Florence Milling Co.
Lake City	Mrs. J. H. O. Gaskin.
Cowards	J. C. Lynch.
Florence	Florence Roller Mill.
GEORGETOWN—	
Rhelms	T. & D. D. Rhelm.
Oaks	Wilson & Durant Co.
GREENVILLE—	
Piedmont	Jackson & Co.
Fountain Inn	W. P. Jones.
Taylor	Taylor's Roller Mill.
Taylor	E. G. Green.
Greenville	Eagle Roller Mills.
Greenville	Mountain City Milling Co.
Simpsonville	S. M. Vaughn.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
Greenville	L. O. Henderson.
Greenville	S. C. Berry & Son.
Greenville	J. D. Gilreth.
Taylor	B. Perry & W. S. Edwards.
Taylor	E. G. Green.
Fountain Inn	W. T. Jones.
Greers	S. C. Berry & Son.
Travelers Rest	F. E. Neves.
Greenville	W. L. Cunningham.
GREENWOOD—	
Greenwood	P. T. Cromer.
Ninety Six	Mrs. P. O. Murry.
HAMPTON—	
Brunson	H. M. Preacher.
Scotia	A. J. DeLoach.
Early Branch	Mrs. A. J. Ficklin.
Varnville	D. W. Smith.
Luray	Coy Johnson Co.
Varnville	H. L. McMillan.
Furman	J. R. Mixon.
Hampton	J. Mauldin.
HORRY—	
Toddsville	Dusenberry & Co.
Wampee	D. E. Hardwick.
Loris	Dock D. Harolton.
Conway	Snow Hill Gin.
Hand	A. J. Todd.
Wampee	C. H. Platt.
Conway	Geo. Bray.
Myrtle Beach	Myrtle Beach Farm Co.
JASPER—	
Ridgeland	C. E. Perry.
Coosawhatchie	T. R. W. Roberts.
Early Branch	C. B. Tuten.
KERSHAW—	
Blaney	F. T. Bookman.
Kershaw	West & Barfield.
Lugoff	A. D. Robln.
Camden	E. E. Holland.
Longtown	J. B. Nelson.
LANCASTER—	
Lancaster	Nesbitt & Wolson.
Taxahaw	W. P. McManus.
Lancaster	L. F. Dabney & Co.
Lancaster	B. L. Parker.
Lancaster	Rev. H. Frasier.
LAURENS—	
Langfords Station	J. M. Flemming.
Gray Court	H. J. Armstrong.
Laurens	Branlett-Babb Milling Co.
Cross Hill	Razor & Thompson.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
LEE—	
Lamar	S. A. Jefford.
Bishopville	E. S. Newsome.
LEXINGTON—	
Batesburg	Strothers' Mill.
Chapin	P. D. Lowman.
Swanson	J. M. Gunter.
Lexington	E. J. George.
Irmo	O. H. Dreher.
Swansea	H. D. Huckabee.
Gilbert	R. L. Kelsler.
Little Mountain	J. J. Frick.
Chapin	Sol Metz.
Gilbert	J. J. Crout.
Pellon	C. H. Barr & Son.
Edmund	Edmund Flour Mill.
Gilbert	J. L. Taylor.
Chapin	S. J. Clark.
McCORMICK—	
Plumb Branch	K. E. Miller.
Plumb Branch	W. H. Parks.
Parksville	Parksville Roller Mill.
McCormick	L. N. Chamberlin.
MARION—	
Centenary	Davis Grist Mill.
Magdon	Rose's Grocery.
Eulonia	W. J. Cravant & J. E. Richardson.
MARLBORO—	
Drake	W. B. Drake.
Bennettsville	L. J. Davis Grist Mill.
NEWBERRY—	
Kinards	Smith's Roller Mill.
Newberry	L. C. Singley.
Pomaria	Pomaria Grist Mill.
Newberry	Fay's Mill.
Newberry	Shumpert's Roller Mill.
Prosperity	W. F. Lester.
OCONEE—	
West Union	West Union Custom Flour.
Westminster	Jas. H. Brown.
Westminster	Tollison & Hunnicutt.
Westminster	A. H. Land.
West Union	J. M. V. Clark.
Westminster	M. W. Gibson.
West Union	C. R. D. Burns.
Seneca	W. L. Dalton.
Saluda	J. H. Wiggington.
Townville	Earl's Mill.
Seneca	W. A. Buchanan.
Salem	J. H. Wiggington & Co.
Walhalla	Mrs. N. E. Lay.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
ORANGEBURG—	
Elloree	J. W. Berry.
Orangeburg	Ayers' Mill.
Orangeburg	W. M. Lowry.
Orangeburg	J. B. Owens.
Branchville	Edisto Milling Co.
Springfield	Springfield Grist Mill.
North	L. K. Edwards, Jr.
Eutawville	S. P. Myers.
North	D. N. Calahan.
Eutawville	John Washington.
Orangeburg	W. T. Murden.
Norway	J. D. Darnell.
Branchville	Boyd & Boyd.
Jameson	Frank W. Farmon.
Branchville	A. S. Dukes.
Cordova	W. L. Mack.
Eutawville	T. L. Conner.
Orangeburg	J. J. Fairy.
Parler	L. M. Smith.
Bowman	A. D. Fair & Son.
PICKENS—	
Pickens	A. G. & J. M. Reese.
Easley	B. F. Lenhardt.
Easley	W. H. Hamilton.
Easley	J. T. Flynn.
Central	Central Roller Mill Co.
Sunset	A. L. Winchester
Pickens, R. F. D. No. 5.....	J. P. Whitmire.
Central	O. E. Smith.
Pickens	Durham & Children.
Pickens	Town Creek Roller Mill.
Dansville	Lenhardt's Corn Mill.
Maritta	J. A. Hendricks.
Pickens	Sutherland Mills.
Easley	Glarine Mills.
Pickens	Gravelly's Grist Mill.
RICHLAND—	
Columbia	Adluh Milling Co.
Columbia	Kirkland Distributing Co.
Columbia	Iclewood Mills.
Hopkins	W. K. Duffie.
SALUDA—	
Saluda	B. W. Sineath.
Leesville	Hare's Mill.
Chappels	J. A. Werts.
Saluda	J. Powell & Courtney.
SPARTANBURG—	
Spartanburg	J. W. Bell.
Enoree	D. L. Poole.
Campobello	Flagan & Edwards.

TABLE XXVII.—DIRECTORY OF PRINCIPAL GRIST MILLS.—Continued.

Location.	Name of Corporation.
SPARTANBURG—Continued.	
Chesnee	D. S. Crawley.
Cherokee Springs	Lawton & Bros.
Pauline	H. W. Gwins.
Inman	H. A. Wingo.
Spartanburg	Spartanburg Roller Mills.
Spartanburg	Spartan Grain & Milling Co.
White Stone	Foster's Mill.
Inman	Collins-North Tiger Roller Mill.
Roebuck	V. H. Rodges & B. Haynes.
SUMTER—	
Mayesville	R. J. Mayes.
Mayesville	J. W. Spencer.
Sumter	Sumter Roller Mills.
Wedgfield	McPeas Mills.
Dalzell	Elizabeth L. Sanders.
Sumter	T. W. Lee.
Rembert	Lakewood Roller Mills.
Brogdon	W. T. Brokdon.
UNION—	
Jonesville	H. T. Hames.
Union	Acme Grocery Co.
Jonesville	B. F. Kennady.
WILLIAMSBURG—	
Kingstree	Jas. Epps.
Trio	McCullough Grist Mill.
Greeleyville	C. A. Hines.
Trio	Registen Bros. Trio Mill.
Greeleyville	Walter Mixon.
Greeleyville	J. M. C. Montgomery.
Heinlman	J. P. Gamble.
YORK—	
Bowling Green	Reynold's Mill.
Clover, R. F. D. No. 2.....	Davis Roller Mill.
Filbert	Brown & Land.
York	Black's Mill.
Rock Hill	Victory Milling Co.
York	Jno. Miller.
York	J. L. Moss.
Rock Hill	McFadden's Mill.
McConnellsville	R. E. Stevenson.
Clover	Robt. Riddle.
Smith's Turnout	C. E. Strait.
York	M. L. Smith.
Clover	P. Goforth.
Rock Hill	Catawba Milling Co.
Clover	R. J. Davis.
Clover	R. R. Riddle.
Rock Hill	Mathews Bros. & Son.
Roddey	R. W. Patton.
Hickory Grove	J. M. McGill & Co.

TABLE XXIX—DIRECTORY OF PRINCIPAL GLASS INDUSTRIES.

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Parson Optical Company.
Charleston	O. L. Walters Optical Company.
GREENVILLE—	
Greenville	Brown-Witt Kemp Optical Company.
Greenville	Globe Optical Mfg. Company.
Greenville	Odom Schade Mfg. Company.
LAURENS—	
Laurens	Laurens Glass Works.
RICHLAND—	
Columbia	O. L. Walter Optical Company.

TABLE XXX—DIRECTORY OF PRINCIPAL GAS PLANTS.

Location.	Name of Corporation.
ANDERSON—	
Anderson	Anderson Gas & Utilities Company.
FLORENCE—	
Florence	Florence Gas Company.
GREENVILLE—	
Greenville	Greenville Gas Plant.
RICHLAND—	
Columbia	Pintsch Compressing Company.
Columbia	Columbia Gas Light Company.
SUMTER—	
Sumter	Sumter Gas & Power Company.
YORK—	
Rock Hill	Rock Hill Gas Company.

TABLE XXXI—DIRECTORY OF PRINCIPAL HARNESS AND LEATHER INDUSTRIES.

Location.	Name of Corporation.
ANDERSON—	
Anderson	T. O. Anderson.
GREENVILLE—	
Greenville	O. M. & N. J. Goodlett.
RICHLAND—	
Columbia	Wilse M. Martin.
SPARTANBURG—	
Spartanburg	Andrew Loom Reed-Harness Co.
Spartanburg	T. O. Monck.

TABLE XXXII—DIRECTORY OF PRINCIPAL ICE PLANTS.

Location.	Name of Corporation.
ABBEVILLE—	
Abbeville	Abbeville Ice & Laundry Company.
AIKEN—	
Aiken	Aiken Ice Company (Warrenville).
Aiken	Aiken Ice Company (Aiken).
ANDERSON—	
Autum	Pendleton Electric Company.
Belton	Belton Ice Company.
Anderson	Anderson Ice Co.
BEAUFORT—	
Beaufort	People's Ice & Fuel Company.
CHARLESTON—	
Charleston	Arctic Ice & Coal Company.
Charleston	The Consumers' Ice Company.
CHESTER—	
Chester	Chester Ice Company.
COLLETON—	
Walterboro	Walterboro Ice & Fuel Company.
DARLINGTON—	
Darlington	Darlington Ice & Packing Company.
DILLON—	
Dillon	The Wood Grocery Company.
FAIRFIELD—	
Winnsboro	Winnsboro Ice Company.
FLORENCE—	
Lake City	Thomlinson & McWhite.
GREENVILLE—	
Greenville	Polar Ice & Fuel Company.
Greenville	Greer Ice & Fuel Company.
GREENWOOD—	
Greenwood	Greenwood Ice Company.
Ware Shoals	Ware Shoals Ice Company.
LANCASTER—	
Lancaster	Lancaster Ice & Fuel Company.
LAURENS—	
Laurens	Laurens Ice Factory.
MARLBORO—	
Bennettsville	Bennettsville Ice Company.
NEWBERRY—	
Newberry	Newberry Cotton Mill Ice Plant.

TABLE XXXII—DIRECTORY OF PRINCIPAL ICE PLANTS.—Continued.

Location.	Name of Corporation.
ORANGEBURG—	
Orangeburg	Orangeburg Ice & Fuel Company.
PICKENS—	
Easley	Easley Mills Ice Plant.
RICHLAND—	
Columbia	Quick Ice Machine Company.
Columbia	Palmetto Ice Company.
Columbia	Crystal Ice Company.
Columbia	Columbia Ice and Fuel Company.
SPARTANBURG—	
Spartanburg	Hallet Ice & Coal Company.
Spartanburg	Hygela Ice & Fuel Company.
SUMTER—	
Sumter	Sumter Ice Plant.
UNION—	
Union	Consolidated Ice & Fuel Company.
YORK—	
Rock Hill	Rock Hill Ice Company.

TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER PRODUCT MILLS.

Location.	Name of Corporation.
ABBEVILLE—	
Abbeville	W. J. Milford.
Lowdensville	Hutchinson Bros.
AIKEN—	
Hawhorn	N. L. Brayboy.
Wagner	Loyd Gunter.
Brown Hill	Beech Island Lumber Company.
Graniteville	H. H. Riley.
Ellenton	Barnwell Saw Mill.
Langley	J. W. Harve.
ANDERSON—	
Anderson	The M ^r L. Bressey Lumber Company.
Anderson	Townsend Lumber Company.
Anderson	J. E. Barton Lumber Company.
Anderson	Jno. T. Burris & Son.
BAMBERG—	
Embril	Edisto River Lumber Company.
Denmark	T. H. & J. D. Turner.
Bamberg	J. T. Jennings.
Schofield	Salt-Ketchie Lumber Company.
Denmark	C. J. Bakter.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
BARNWELL—	
Barnwell	Plexico Bros.
Hilda	J. C. Dyches.
Blackville	W. T. Walker.
Dovora	Kendall Lumber Company.
Elko	R. A. Green.
BEAUFORT—	
Gray's Hill	N. M. Peak.
Beaufort	N. C. & H. Christianson.
BERKELEY—	
Wren	B. B. Bishop.
Bonneau	J. W. Thornley.
Moncks Corner	R. A. Thornley.
Bonneau	W. A. Spiers.
Moncks Corner	J. McWilliams.
Moncks Corner	D. E. Thomas.
St. Stephens	J. W. Wilder.
Cross	Cross Bros.
CALHOUN—	
Orangeburg	E. S. Edwin.
St. Matthews	A. K. & A. S. Smoak.
St. Matthews	Murphy's Saw Mill.
St. Matthews	C. M. Herlong.
St. Matthews	J. W. Tucker.
St. Matthews	Jno. D. Antley.
CHARLESTON—	
Charleston	C. E. Welling.
Charleston	A. H. Fischer Co.
Charleston	The North State Lumber Co.
Charleston	S. M. Parker.
Charleston	A. C. Tucksbury Lumber Co.
Charleston	Halsey Lumber Co.
Charleston	E. P. Barton Lumber Co.
Charleston	Anderson Lumber Co.
Charleston	L. Wetherhorn.
CHEROKEE—	
York	Pursley & Quinn.
Gaffney	Spencer & Spencer.
CHESTER—	
Redmon	Waters & Waters.
Chester	Chester Machine & Lumber Company.
CHESTERFIELD—	
Middendorf	Wilhelm & Wilks.
Jefferson	W. A. Plyler.
Chesterfield	W. K. Sellers.
Cheraw	Cheraw Sash, Door & Lumber Co.
Ruby	W. A. Sullivan.
Cheraw	Meiklejohn Lumber Company.
Ruby	Greggs Bros.
Pageland	R. A. Carpenter.
Chesterfield	Bryon & Odom.
Angelus	C. E. & O. W. Horton.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
CLARENDON—	
Manning	C. M. White.
Manning	J. C. Johnson
Jordon	C. W. Rawlinson.
Manning	J. McFadden.
Bloomville	F. C. Thomas.
Alcolu	D. W. Alderman & Son Co.
New Zion	Cansor & McCutchen.
Remini	H. E. & T. H. Parker.
Summerton	T. H. Felder.
Gable	Black River Cypress Company.
Remini	A. S. M. Parker.
Turbeville	Cole & Cole.
Alcolu	J. H. Warren.
COLLETON—	
Cottageville	S. G. Purse & Son.
Walterboro	B. M. Colson.
Walterboro	E. R. Bryan.
Ashepoo	Bradley Lumber & Mfg. Co.
Lodge	H. A. Fox.
Wiggins	Savannah River Lumber Co.
Lodge	J. S. Jordon.
Colleton	The Colleton Cypress Co.
Green Pond	Sullivan Lumber Co.
Ruffin	J. D. Hudson.
Salkehatchie	Baker Lumber Co.
Lodge	F. N. Jones.
Walterboro	H. B. Thomson.
DARLINGTON—	
Darlington	T. P. Rhodes Saw Mill.
Lumber	D. T. McNeilhan.
Hartsville	H. K. Seagers & Co.
DILLON—	
Dillon	W. C. Tolan.
Dillon	Pee Dee Shingle Mill.
Little Rock	J. H. Dunlap & Son.
DORCHESTER—	
Ridgeville	N. S. Clayton.
St. George	R. B. Jerigan.
Harleyville	D. P. Pendamis.
Summerville	J. F. Prettyman & Son.
Coosawhatchie	D. E. Thromer.
Bad Ham	Dorchester Lumber Co.
Ridgeville	Galehouse Etling & Co.
Pregnaill	M. G. Rumph & Son.
Ridgeville	W. M. Vaughan.
Harleyville	J. C. Parlor.
Harleyville	W. M. Bell.
St. George	Traxler & Bros.
Reevesville	D. D. Kiser.
Pregnaill	H. W. Hughes.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
EDGEFIELD—	
Meriwether	Woodlawn Lumber Co.
Johnston	M. T. Turner.
Cleora	F. E. Watson.
FAIRFIELD—	
Winnaboro	W. T. Johnston.
Shelton	Hill Bros.
Winnaboro	J. P. Isenhower.
Shelton	J. L. Dickey.
Ridgeway	Collins & Collins.
Winnaboro	Rabb & Wells.
Longtown	Milton H. Dial.
FLORENCE—	
Timmons ville	Carter & Smith.
Pamplico	Dorgan Wagoner Co.
Pamplico	Clement Veneer Lumber Co.
Lake City	Deep River Lumber Co.
Timmons ville	J. W. Gandy & Co.
Florence	Giles Bay Lumber Co.
Scranton	R. E. McKnight.
Timmons ville	W. M. Timmons ville.
Lake City	Lawrence & Huggins.
GEORGETOWN—	
Georgetown	Ward-Bate Co. Inc.
Georgetown	Atlantic Coast Lumber Co.
Georgetown	Winyah Lumber Co.
Oaks	Oaks Saw Mill.
Waverly Mills	Waverly Mills.
Andrews	Watha Lumber Co.
GREENVILLE—	
Greenville	Greenville Lumber Co.
Greenville	W. L. Hallman Co.
Greenville	Neeard Lumber Co.
Landrum	A. D. Plumley.
Taylor	Vause W. Crowder.
GREENWOOD—	
Troy	J. H. Banks.
Greenwood	Greenwood Lumber Co.
Greenwood	W. J. Snead Lumber Co.
Greenwood	J. P. Stockman.
HAMPTON—	
Cummings	C. W. Cumming.
Furman	R. C. DeLoach.
Brunson	J. C. Dawling.
Hampton	J. C. Lightsey.
Lena	H. L. Lawton.
Varnville	Varnville Lumber Corp.
Early Branch	E. J. DeCamp Lumber Co.
Hampton	Lightsey Bros.
Estill	Estill Planing Mill Co.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
HAMPTON—Continued.	
Garnett	M. A. Waring.
Estill	Hamilton Ridge Lumber Corp.
Varnville	E. R. Ginn.
HORRY—	
Myrtle Beach	Socastee Stock Co.
Tabor, N. C.	J. T. Mills.
Vina	W. C. Reeves & Son.
Allen	Trexler Lumber Co.
Conway	Chestnut & Anderson.
Hand	A. J. Todd.
Little River	Stone Bros. Co.
Conway	H. P. M. Todd.
Little River	C. H. Platt.
Conway	Geo. Bray.
Loris	W. M. & C. R. Rouse.
Gallivant Ferry	Small Ground Mill (W. A. Dousey).
Conway	D. V. Richardson.
Wampee	J. C. Bell.
Wampee	W. L. Bellamy.
Little River	Hammer Lumber Co.
JASPER—	
Hardeeville	Argent Lumber Co.
Tillman	J. S. & W. T. Crockett.
Tillman	W. T. Kuhn Lumber Co.
Ridgeland	Chelsa Lumber Co.
Gilmaria	Savannah River Lumber Corp.
Ridgeland	J. E. Malphrus.
KERSHAW—	
Kershaw	J. E. Williams.
Kershaw	W. M. Scott.
Camden	J. L. Guy Lumber Co.
Camden	Davison Lumber Co.
Westville	Acme Lumber Co.
Kershaw	Kershaw Lumber Co.
Lugoff	Smith & Smith.
LANCASTER—	
Lancaster	Builders Supply Co.
Lancaster	H. B. Perry.
Heath Springs	Bennett & Bennett.
LAURENS—	
Ware Shoals	H. S. & E. S. Hensley.
LEE—	
Bishopville	Josey & Dixon.
Lynchburg	S. W. Solomon.
Lamar	J. A. Jeffries.
LEXINGTON—	
Peak	C. W. Chapman & Co.
Gilbert	W. S. Keisler & Son.
Gilbert	Smith Bros.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
LEXINGTON—Continued.	
Chapin	Hiller Bros.
Peak	W. H. Coon.
Chapin	Wessinger Bros.
Leesville	M. R. Shealey.
MCCORMICK—	
Meriwether	Hines Lumber Co.
McCormick	J. L. Reynolds Saw Mill.
McCormick	Dorn & Dorn.
Parksville	C. C. & Gazzie Osborne.
MARION—	
Sellers	Tilghman Lumber Co.
Sellers	The Omolundro Lumber Co.
Marion	Marion Lumber Co. Corporation.
Marion	Bell Lumber Co.
Marion	Anderson Lumber Co.
Marion	W. Duncan.
Marion	A. B. Brown.
MARLBORO—	
McCall	Fletcher & Betcha.
Clio	Snipes Bros., Inc.
Drake	Pee Dee River Veneer Co.
Bennettsville	Central Timber Saw Mill Co.
Drake	C. S. Whipple.
Bennettsville	Scott Lumber Co.
NEWBERRY—	
Prosperity	J. B. Dominick.
Prosperity	J. D. Boozer.
Newberry	W. T. Livingston.
Kinards	N. W. Oxner.
Blair, Route No. 1.....	S. H. Robinson & Son.
Newberry	Newberry Lumber Co.
Prosperity	J. C. Counts & Son.
Blair	Henderson Bros.
Newberry	Wallace & Neal.
Newberry	Herbert & Sons.
Kinards	Bedenbough Bros.
Pomaria	L. B. Boland.
OCONEE—	
West Union	The Brown Lumber Co.
Westminster	Gaines Dalton Lumber Co.
Seneca	J. N. Davis.
ORANGEBURG—	
Orangeburg	J. W. Sheriff.
Eutawville	L. A. Dantzler.
Neeses	J. G. Dukes.
North	L. K. Etheredge.
Cope	Jno. H. Cope.
Elloree	M. B. Arnett.
Springfield	M. M. Phillips.
Springfield	T. L. Gleaton.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
ORANGEBURG—Continued.	
Orangeburg	D. A. Sprinkle.
Holly Hill	L. A. Carson.
Orangeburg	E. S. Burner.
Orangeburg	D. E. Thrower.
Branchville	Newell Lumber Co.
Holly Hill	J. L. Gilmore.
Neeses	H. M. Stephenson.
Elloree	E. T. Edmons.
Laurens	E. G. Bramlett.
Cordova	D. J. Hughes.
Bowman	Pink Smith.
PICKENS—	
Pickens	Pickens Lumber Corp.
RICHLAND—	
Columbia	Columbia Lumber & Mfg. Co.
Columbia	J. C. Bruton Stave Mill.
SALUDA—	
Ward	J. D. Parish.
Saluda	Saluda Lumber Co.
Leesville	Holly Bros.
Saluda	J. L. Edwards.
Chappells	W. A. Webb Saw Mill.
Saluda	Chapman & Chapman.
Saluda	Blease & Soar.
Saluda	D. T. Mitchell.
Leesville	S. E. Amick.
Saluda	Mitchell & Jennings.
Saluda	T. F. Crawford.
SPARTANBURG—	
Spartanburg	Superior Planing Mill.
Landrum	Finger Lumber Co.
Spartanburg	Sams Fraser Lumber Co.
Spartanburg	Spartanburg Lumber & Mfg. Co.
Moore	O. W. Harrieon.
SUMTER—	
Sumter	Acton Lumber Co.
Sumter	Jackson Tweed Lumber Co.
Sumter	Southern Sash, Door & Blind Factory.
Sumter	Sumter Planing Mill & Lumber Co.
Lynchburg	M. McClam.
Sumter	Penn Sumter Lumber Co.
Sumter	Avery Lumber Co.
UNION—	
Carlisle	Lantz Lumber Co.

**TABLE XXXIII—DIRECTORY OF PRINCIPAL LUMBER AND TIMBER
PRODUCT MILLS.—Continued.**

Location.	Name of Corporation.
WILLIAMSBURG—	
Lanes	E. O. Rogers.
Lanes	J. C. Graham.
Greeleyville	C. A. Helms.
Greeleyville	Enterprise Sawing Co.
Cades	McClam & Son.
Hemingway	Bachelor & Co.
Kingstree	F. A. Hodge.
Hemingway	J. H. Huggins.
Greeleyville	Mallard Lumber Co.
YORK—	
York	A. L. Black.
York	R. E. L. Ferguson.
Clover	F. L. Goforth.
York	Langley Saw Mill.
Rock Hill	Sylecan Mfg. Co.
York	S. S. & F. L. Bird.
York	McGill Bros.
York	Logon Lumber Co.
York	J. A. Tate.
Rock Hill	W. M. Pursley & M. W. Boyd.
Clover	J. B. H. Jackson.
York	Pursley & Quinn.
Sharon	J. L. Rainy.

**TABLE XXXIV—DIRECTORY OF PRINCIPAL MATTRESS AND SPRING
BED FACTORIES.**

Location.	Name of Corporation.
ANDERSON—	
Anderson	Anderson Mattress & Spring Co.
CHARLESTON—	
Charleston	Automobile Top & Trimming Co.
Charleston	Charleston Auto Top Co.
GREENVILLE—	
Greenville	Greenville Mattress Mfg. Co.
GREENWOOD—	
Greenwood	Greenwood Mattress Factory.
RICHLAND—	
Columbia	Columbia Mattress Works.
SPARTANBURG—	
Spartanburg	Spartan Bedding Co.
Spartanburg	Muckenfuss Mfg. Co.

TABLE XXXV—DIRECTORY OF PRINCIPAL MINE AND MINING INDUSTRIES.

Location.	Name of Corporation.
AIKEN—	
Langley	Immaculate Kaolin Co.
CHARLESTON—	
Charleston	Charleston Lead Works.
Charleston	Charleston Ore Company.
Lam's	Chisolms & Lamb's Mines.
CHEROKEE—	
King's Creek	Cherokee Chemical Co.
RICHLAND—	
Hopkins	Interstate Clay Co.
Columbia	Columbia Mineral Product.
GREENWOOD—	
Greenwood	McCormick Mining Co.

TABLE XXXVI—DIRECTORY OF PRINCIPAL MINERAL AND SODA WATER PLANTS.

Location.	Name of Corporation.
ABBEVILLE—	
Abbeville	Abbeville Coca-Cola Bottling Works.
AIKEN—	
Aiken	Aiken Bottling Works.
Salley	Salley Coca-Cola Bottling Co.
ALLENDALE—	
Fairfax	Fairfax Cider Co.
Allendale	Allendale Coca-Cola Bottling Co.
ANDERSON—	
Anderson	Coca-Cola Bottling Co.
Belton	Belton Coca-Cola Bottling Co.
Anderson	Lime Cola Bottling Co.
Anderson	Chero-Cola Bottling Co.
BAMBERG—	
Denmark	Denmark Coca-Cola Bottling Co.
Bamberg	Bamberg Chero-Cola Works.
BARNWELL—	
Barnwell	Barnwell Chero-Cola Co.
BEAUFORT—	
Hardeeville	Hardeeville Bottling Works.
Beaufort	Paris Island Bottling Works.
Beaufort	Chero-Cola Bottling Co.
Beaufort	Coca-Cola Bottling Co.
CALHOUN—	
St. Matthews	St. Matthews Coca-Cola Bottling Co.
CHARLESTON—	
Younges Island	Regan Corborating Works.
Charleston	Charleston Christo Cola Co.

**TABLE XXXVI—DIRECTORY OF PRINCIPAL MINERAL AND SODA
WATER PLANTS.—Continued.**

Location.	Name of Corporation.
CHARLESTON—Continued.	
Charleston	Chero-Cola Bottling Co.
Charleston	Chero-Cola Co. of America.
Charleston	Charleston Coca-Cola Bottling Co.
CHEROKEE—	
Gaffney	Coca-Cola Bottling Co.
CHESTER—	
Chester	Chester Chero Bottling Co.
Chester	Chester Pepsi-Cola Co.
Chester	Chester Coca-Cola Bottling Co.
CLARENDON—	
Manning	Manning Bottling Works.
DARLINGTON—	
Darlington	Darlington Bottling Works.
Darlington	Pepsi-Cola Bottling Co.
Hartsville	Gay-Ola Bottling Works.
Darlington	Darlington Coca-Cola Bottling Co.
Hartsville	Hartsville Coca-Cola Bottling Co.
DILLON—	
Latta	Jacob Cobbs.
Dillon	Dillon Coca-Cola Bottling Co.
DORCHESTER—	
St. George	Coca-Cola Bottling Co.
Summerville	Summerville Coca-Cola Bottling Co.
EDGEFIELD—	
Edgefield	Edgefield Chero-Cola Bottling Co.
FAIRFIELD—	
Winnsboro	Winnsboro Bottling Co.
Shelton	Shivar Springs Co.
FLORENCE—	
Florence	Florence Chero-Cola Bottling Co.
Lake City	Coca-Cola Bottling Co.
Florence	Florence Coca-Cola Bottling Co.
GEORGETOWN—	
Georgetown	Chero-Cola Bottling Co.
Andrew	Caro-Cola Bottling Co.
GREENVILLE—	
Greenville	Scales Wilson Co.
Greenville	Pepsi-Cola Bottling Co.
Greenville	Verner Springs Water Co.
Greenville	Coca-Cola Bottling Co.
Greenville	Bludwine Bottling Co.
Greenville	Cinco-Syrup & Fountain Co.
Greenville	Chero-Cola Bottling Co.

**TABLE XXXVI—DIRECTORY OF PRINCIPAL MINERAL AND SODA
WATER PLANTS.—Continued.**

Location.	Name of Corporation.
GREENWOOD—	
Greenwood	Strawbohrn & Seago.
Greenwood	Greenwood Pepsi-Cola Co.
Greenwood	Greenwood Bottling Co.
Greenwood	Greenwood Chero-Cola Bottling Co.
HAMPTON—	
Hampton	Hampton Chero-Cola Bottling Co.
Hampton	Hampton Bottling Works.
HORRY—	
Conway	Conway Chero-Cola Bottling Co.
Conway	Conway Coca-Cola Bottling Co.
JASPER—	
Ridgeland	Jasper Bottling Works.
KERSHAW—	
Camden	Camden Chero-Cola Bottling Co.
Camden	Carolina Coca-Cola Bottling Co.
Camden	Merchant's Bottling Plant.
LANCASTER—	
Lancaster	Pepsi-Cola Bottling Co.
Lancaster	Coca-Cola Bottling Co.
LAURENS—	
Laurens	Laurens Coca-Cola Bottling Co.
Laurens	Chero-Cola Bottling Co.
LEE—	
Bishopville	Bishopville Coca-Cola Bottling Co.
LEXINGTON—	
Lexington	Crescent Bottling Works.
Batesburg	Batesburg Bottling Co.
Batesburg	Gray Rock Spring Co.
Swansea	Swansea Bottling Co.
MARION—	
Marion	Chero-Cola Bottling Co.
Marion	Marion Coca-Cola Bottling Co.
Mullins	Mullins Pepsi-Cola Bottling Co.
MARLBORO—	
Bennettsville	Pepsi-Cola Bottling Works.
Bennettsville	Chero-Cola Bottling Co.
Bennettsville	Coca-Cola Bottling Co.
NEWBERRY—	
Newberry	Bludwine Bottling Works.
Newberry	Pepsi-Cola Bottling Co.
Newberry	Newberry Coca-Cola Bottling Co.
OCONEE—	
Seneca	Coca-Cola Bottling Co.
Walhalla	Walhalla Bottling Co.

**TABLE XXXVI—DIRECTORY OF PRINCIPAL MINERAL AND SODA
WATER PLANTS.—Continued.**

Location.	Name of Corporation.
ORANGEBURG—	
Orangeburg	S. H. Crum.
Orangeburg	Bludwine Bottling Works.
Orangeburg	Orangeburg Coca-Cola Bottling Co.
Orangeburg	Chero-Cola Bottling Co.
PICKENS—	
Pickens	Pickens Bottling Works.
RICHLAND—	
Columbia	Bludwine Bottling Co.
Columbia	Columbia Pepsi-Cola Bottling Co.
Columbia	Chero-Cola Bottling Co.
Columbia	Elk Horn Bottling Co.
Columbia	Columbia Coca-Cola Bottling Co.
Columbia	Mint-Cola Bottling Co.
SALUDA—	
Saluda	Saluda Bottling Co.
SPARTANBURG—	
Woodruff	Woodruff Bottling Works.
Spartanburg	Spartanburg Coca-Cola Bottling Co.
Spartanburg	Chero-Cola Bottling Co.
Spartanburg	Bludwine Bottling Co.
SUMTER—	
Sumter	Sumter Coca-Cola Bottling Co.
Sumter	Lime-Cola Bottling Co.
Sumter	Sumter Bottling Works.
Sumter	Chero-Cola Drug Co.
UNION—	
Union	Union Coca-Cola Bottling Co.
Union	N. W. A. Bottling Co.
Union	Chero-Cola Bottling Co.
Union	Christo Bottling Works.
WILLIAMSBURG—	
Lane	Lane Coca-Cola Bottling Co.
YORK—	
York	York Bottling Works.
York	Coca-Cola Bottling Co.

**TABLE XXXVII—DIRECTORY OF PRINCIPAL MONUMENT AND STONE
INDUSTRIES.**

Location.	Name of Corporation.
AIKEN—	
Aiken	Aiken Stone Co.
ANDERSON—	
Anderson	White & Co.
Williamston	Carolina Stone Co.
Anderson	Todd & Co.

TABLE XXXVII—DIRECTORY OF PRINCIPAL MONUMENT AND STONE INDUSTRIES.—Continued.

Location.	Name of Corporation.
CHARLESTON—	
Myers	Vlett & Marble Co.
Charleston	W. F. Bresnham.
Charleston	Charleston Monument Works.
CHEROKEE—	
Gaffney	Gaffney Marble Works.
CHESTER—	
Chester	C. C. Edwards Marble Works.
DARLINGTON—	
Hartsville	Hartsville Marble Works.
DILLON—	
Dillon	Dillon Monument Works.
EDGEFIELD—	
Trenton	Southern Crushed Stone Co.
FAIRFIELD—	
Rion	Winnaboro Granite Corporation.
FLORENCE—	
Florence	Florence Marble Works.
GREENVILLE—	
Greenville	Butler Marble & Granite Works.
GREENWOOD—	
Greenwood	Owens Bros. Marble & Granite Co.
Greenwood	J. R. Leavell Marble & Granite Works.
Ware Shoals	J. E. Pitts Marble Works.
LANCASTER—	
Lancaster	McNinch Marble & Granite.
NEWBERRY—	
Newberry	R. Y. Leavell & Co.
OCONEE—	
Westminster	Oconee Granite & Marble Works.
Seneca	Seneca Marble & Granite Works.
PICKENS—	
Liberty	Beverly Stone Works.
RICHLAND—	
Columbia	Columbia Stone Co.
Columbia	Standard Monument Works.
Columbia	Weston & Brooker Co.
Columbia	Epworth Orphanage Works.
Columbia	Columbia Granite Works.
SPARTANBURG—	
Spartanburg	G. E. Claxon.
Spartanburg	Spartanburg Granite & Marble Works.
SUMTER—	
Sumter	Sumter Marble & Mantel Co.
YORK—	
York	Palmetto Monument Co.

**TABLE XXXVIII—DIRECTORY OF PRINCIPAL PLANTS MAKING
PATENT MEDICINES AND COMPOUNDS.**

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Fruerson Drug Store.
Charleston	Plenge's Pharmacy.
Charleston	Charleston Drug & Mfg. Co.
FLORENCE—	
Florence	E. M. Matthews.
GEORGETOWN—	
Georgetown	E. I. Dupont & De Nemours.
Georgetown	Duffy Medicine Co.
OCONEE—	
Westminster	Stonecypher Drug Co.
RICHLAND—	
Columbia	Murray Drug Co.
Columbia	Boyd Chemical Co.
SPARTANBURG—	
Spartanburg	Globe Medicine Co.
Spartanburg	Standard Drug Co.
UNION—	
Union	Palmetto Drug Co.
Union	People's Drug Store.

**TABLE XXXIX—DIRECTORY OF PRINCIPAL CONCERNS MAKING
RUBBER SEALS AND STAMPS.**

Location.	Name of Corporation.
CHARLESTON—	
Charleston	W. W. Smith.
Charleston	J. F. P. Easley.
Charleston	Walker-Evans & Cogswell Co.
Charleston	Sassard Bros.
CHEROKEE—	
Gaffney	Hamilton Lee Co.
GREENVILLE—	
Greenville	W. A. Seybt & Co.
COLUMBIA—	
Columbia	Columbia Office Supply Co.

TABLE XL—DIRECTORY OF PRINCIPAL TOBACCO AND CIGAR FACTORIES.

Location.	Name of Corporation.
CHARLESTON—	
Charleston	Seidenberg & Company.
Charleston	Seidenberg Branch.
DARLINGTON—	
Darlington	J. L. Jeffords.
GREENVILLE—	
Greenville	Seidenberg & Company.
GREENWOOD—	
Greenwood	Jas. L. Green & Company.
RICHLAND—	
Columbia	I. Cassel Cigar Factory.
SPARTANBURG—	
Spartanburg	Piedmont Cigar & Mfg. Co.

TABLE XLI—DIRECTORY OF PRINCIPAL NAVAL STORES (TURPENTINE AND ROSIN).

Location.	Name of Corporation.
AIKEN—	
Selvern	Mrs. C. B. Gunter.
CHARLESTON—	
Charleston	LeLand Moore Plant Co.
COLLETON—	
Smoaks	Durham & Durham.
Stokes	J. G. Rhodes & Son.
HAMPTON—	
Furman	R. C. Deloach.
HORRY—	
Conway	Burroughs & Collins Co.
JASPER—	
Gillisonville	W. R. & J. G. Langford.
Tillman	F. H. Eady.

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